Abstract Case and its Functional Aspects in Universal Grammar

---

A Thesis

Presented to

The Faculty of the Department of English

Kwansei Gakuin University

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

(Linguistics)

By

Eriko Hirasaki

March 2016

Abstract

In the study of human language, abstract case (Case) has been one of the fundamental issues. Though there are many studies which are devoted to Case, there seems to be no satisfactory explanation for the existence of Case. This dissertation is an attempt to give an answer to the question what role Case plays in the human language. In this dissertation, I develop a theory of Case which consider Case as a mediation between the syntactic structure and the PF/LF interpretation. To be more precise, I demonstrate that Case represents a morpho-phonological/thematic interpretation of the nominal phrase by referring to its syntactic position. I adopt two Cases in the dissertation: Morphological Case (M-Case), a Case for the A-P system, and Diathetic Case (D-Case), a Case for the C-I system. Each Case serves as a function which maps the syntactic position to the interpretation. The domain of M-Case is a syntactic position of the nominal phrase, and the range is a morpho-phonological interpretation. The domain of D-Case is a syntactic position of the nominal phrase, and the range is a thematic interpretation of the nominal phrase. The proposal that Case is a function which maps a syntactic position to a morpho-phonological/thematic interpretation enables us to subsume Case Filter and θ-Criterion into the general condition on Full Interpretation. The value of M/D-Case is necessary for the derivation to have an interpretable PF/LF-representation. Moreover, treating Case as a function, Case and θ-role as an entity can be eliminated. Eliminating the superfluous conditions and implements, our theory enables us to give a uniform explanation to some phenomena which has been considered as an exception, such as the expletive *there* and Cognate Objects in English. Furthermore, the linguistic variation on passivization can be captured with our theory.

要旨

抽象格(格)は、人間言語の研究における主要な研究対象の 1 つである。生成文法の枠組みにおいても、格にまつわる現象を取り扱う研究は数多く存在する。しかし、これまでの研究では、格に起因する現象の記述と説明に焦点が当てられており、格そのものに関する考察が十分であったとは言い難い。そこで本論文では、格が人間言語において果たす役割に焦点を当てた格理論の構築を試み、格は名詞の統語構造上の位置に基づいて音韻部門と意味部門における名詞の解釈を決定するものであると主張する。具体的には、音韻部門における形態的音韻的解釈を決定する格を Morphological Case(M 格)、意味部門における主題役割的解釈を決定する格を Diathetic Case(D 格)と呼び、それぞれの格が函数として機能していると提案する。M 格は名詞の形態的音韻的解釈を、D 格は名詞の主題役割的解釈を値域とするため、格が適切な項を持たない事は、音韻表示や意味表示内に解釈が不確定な名詞が存在する事態を引き起こしうる。従来格フィルターによって説明されてきた非文法性は派生の音韻表示に必要な形態的音韻的解釈が不足している事が原因によって生じていると捉えられ、θ-基準の規則の違反によって説明されてきた非文法性は派生の意味表示に必要な主題役割的解釈が不足している事が原因によって生じていると捉えられる。即ち、本研究の主張に基づくと、従来格フィルターや θ-基準の規則の違反によって説明されてきた非文法性は、いずれも完全解釈の原理に還元される。また、格を統語構造と名詞の解釈の間の写像であると見做す本理論によって、格を形式素性として実存するものとして仮定する必要性は失われる。更に、2 種類の格の存在とその値を決定するための操作を仮定する事の帰結として、従来の理論下では特殊なものとして扱わざるを得なかった名詞の振舞に対して統一的な説明を与えると共に、受動態に関する言語間の差異を捉える事が可能となる。本研究の優位性は、概念的必然性の認められない規則や要素を理論から排除した上で経験的な記述性の向上に努めたことにある。

Acknowledgements

I would like to express my deepest gratitude to Hiroyuki Ura for his invaluable suggestion and remarkable patience. He took time to discuss the relevant topic with me and encouraged me into the dissertation without stint. Most of the ideas shown in this dissertation are conceived through discussions with him. If it had not been for his constructive comments and warm encouragements, this dissertation would not have been completed.

I would also like to thank the other members of my committee, Toshifusa Oka and Keiko Yamamoto, for their invaluable comments and suggestions. Their generous supports were indispensable for this dissertation. I am indeed grateful to Kiyomi Kusumoto for her various support. When I felt depressed, she always cheered me up and gave me helpful advices. Without her support, I could not have continued my study today. I especially like to thank Jun Abe, Tomohiro Fujii, Christopher Tancredi, Yuji Takano for their helpful comments. I am honored to have had opportunities to discuss with them.

Many thanks are also due to my friends and colleagues: Shin'ya Asano, Sanae Ezaki, Koyuki Ichida, Nao Ishino, Kazuya Kudo, Akitoshi Maeda, Hiroko Morii, Ryota Nakanishi, Koji Shimamura, Hajime Takeuchi, Shinta Tamaki, Hideharu Tanaka, Yuta Tatsumi, and Masashi Yamaguchi. I am very thankful to them for their critical comments, useful discussions, and great supports. Thanks to their kindness, the time I spent with them were instructive and delightful.

Finally, I would like to thank my family, Akihito, Kunie, Yasuhiro, and Fumiko, for their encouragement and support in every respect.

Contents

Chapter 1 1

1. Introduction 1

2. Case in Chomsky (1981), Chomsky (1986) and Chomsky (1995) 2

3. θ-Criterion in Chomsky (1981) 7

4. Organization 10

Chapter 2 11

1. Introduction 11

2. Fundamentals of Case Theory 12

3. Case as a Function 16

4. Theoretical Assumptions and Notations 25

5. Some Predictions of the Theory 28

Chapter3 32

1. Transitive Verbs 32

2. Ditransitive Verbs 46

3. Intransitive Verbs 49

Chapter 4 55

1. Introduction 55

2. Properties of *there* and Internal Expletive Hypothesis 55

3. Associate of the expletive *there* and Definiteness Effect 64

4. Difference between *there* and *it*.....68

4. Linguistic Variation in the Use of Expletives.....70

Chapter 5..... 77

1. Introduction.....77

2. Mechanism of Passivization in English.....78

3. Linguistic Variation of Null Argument.....82

4. Difference on Passivization between Languages.....91

Chapter 6..... 94

1. Introduction.....94

2. Data.....95

3. Previous Analysis.....98

4. New Analysis.....105

Appendix: On *Allege*-type and *Assure*-type.....116

Chapter 7.....119

1. Introduction.....119

2. Data.....120

3. Previous Analyses.....124

4. New Analysis.....126

4. Cognate Object and Hyponymous Argument.....132

5. Definiteness Effect and Cognate Objects.....137

Chapter 7.....139

1. Case for something other than NP 139

2. Conclusion 141

Notes.....144

References.....162

Chapter 1

Case Theory and θ-Theory

1. Introduction

Case has been one of the main subject for the inquiry on the human language. The term "case" stems from the Classical Greek word that means declension or modification, and was originally used to refer to the morphological variants of a given noun. In the course of the Middle Ages, it became to mean "interrelation between nouns (or words)" and refer to both morphological forms and interpretational relations. (Ura 2001)

Since Chomsky (1965), in the Generative Grammar the morphological aspect of case has been observed mainly, and after Chomsky (1995) conceived the Minimalist Program, Case feature has been treated as an [-interpretable] formal feature.[1] Because of this system, it is impossible for Case to have any role at LF since [-interpretable] features cannot be read by the Conceptual-intentional (C-I) system. In this theory, Case plays a central role as one of the driving force of movement (Bobaljik and Wurmbrand 2008). Adopting this approach, there are many studies on Case.

However, there remains a question which does not have a satisfactory answer throughout the series of studies: what role does Case play in the human language? This thesis is an attempt to give an answer to the question. In the previous studies, Case has been treated as an [-interpretable] formal feature, and Case is said to cause the syntactic operation. The previous studies explain

what happens if Case exists, but they do not explain for what reason Case exists in the human language. In this thesis, I will argue that Case mediates between syntactic structures and the LF/PF representation. To be more precise, in the LF/PF representation, Case visualizes the information of the syntactic structure and enables the Articulatory-perceptual (A-P) system and the C-I system to interpret the structural information.

It is important to note that contrary to the present theory, I argue, in this thesis, that Case plays an important role not only in the A-P system, but also in the C-I system.[2] Since Case is a visualizer of the structural information, it is natural for us to regard Case as a function for both A-P system and C-I system. This idea leads us to subsume θ-Criterion under our new Case theory. In the rest of this chapter, I will summarize the previous Case theory and θ-Criterion, and will outline the following chapters.

2. Case in Chomsky (1981), Chomsky (1986) and Chomsky (1995)

In this section, I will summarize the basics of Case theory proposed in Chomsky (1981), Chomsky (1986) and Chomsky (1995). In Chomsky (1981) and Chomsky (1986), along lines suggested by Vergnaud (1982), it is assumed that case is always presented abstractly in syntax regardless of whether it is morphologically manifested or not. Though Case is morphologically realized in some languages and in others not, we assume that Case is assigned in a uniform way. Reflecting the idea of abstract Case, Chomsky (1981) and Chomsky (1986) adopt Case Filter, which is assumed to be a filter in the PF-component.

(1) a. Case Filter (Chomsky 1981: 49)

*NP if NP has phonetic content and has no Case.

b. Case Filter (Chomsky 1986: 74)

Every phonetically realized NP must be assigned (abstract) Case

As shown in (1), it is proposed that every NP with a phonetic matrix must have Case. This proposal enables us to derive why verbal constructions differ from nominal and adjectival constructions in form. This difference can be exemplified by the followings

(2) a. destroy the city

b. destruction of the city (Chomsky 1981: 49)

Chomsky (1981) assumes that the difference in surface structure is caused by Case Filter. In Chomsky (1981), it is adopted that (2a) and (2b) have the same form in the base, and the rule *of*-insertion gives the surface form of (2b). Since the head *destruction* cannot assign Case in (2b), an empty preposition devoid of semantic content is inserted as a kind of Case-marker in order to permit the nominal complement *the city*.

Chomsky (1981) supposes that the fundamental properties of Case assignment are as follows.

(3) Properties of Case Assignment (Chomsky 1981: 170)

a. NP is nominative if governed by AGR

b. NP is objective if governed by V with the subcategorization feature: __NP (i.e., transitive)

c. NP is oblique if governed by P

d. NP is genitive in [$_{NP}$ __X']

e. NP is inherently Case-marked as determined by properties of its [$_{NP}$ __N] governor

The Case assigned under (3a, b, c, d) is called "structural Case", and the Case assigned under (3e) is called "inherent Case". Chomsky (1981) assumes that the former Case is dissociated from θ-role, and the latter Case is presumably closely linked to θ-role. With the properties shown in (3), we can predict the form of DPs in a sentence. Let us consider the following sentences for example.

(4) a. She loves him.

b. *Her loves him.

c. *She loves he.

It is assumed that the sentence initial position is governed by AGR, and the object position of the verb *love* is governed by the transitive verb. According to (3a), the NP governed by AGR is nominative, so in (4), each third person feminine singular pronoun in the sentence initial position is assigned nominative Case. Since the subject pronoun in (4b) has a different morpho-phonological realization, the sentence is ungrammatical.

Similarly, according to (3b), the NP governed by a transitive verb is objective, so in (4), each third person masculine singular pronoun in the object position of the transitive verb is assigned accusative Case. Since the object pronoun in (4c) has a different morpho-phonological realization, the sentence is ungrammatical.

The (un)grammaticality of the sentences in (4) can also be explained with Chomsky (1995). In Chomsky (1995), it is adopted that if features which are in a configuration for feature checking fail to match, they are not checked. In (4b), the DP *her* has an accusative Case feature, and is raised to [Spec, TP], where nominative Case is checked. Since the Case features do not match, [-interpretable] Case feature fails to be checked, and as a result, the sentence is ungrammatical.

From the definition shown in (1), it is clear that Case Filter is proposed as a morphological requirement. However, because Case Filter does is not concerned about phonetically null NPs, Case Filter fails to account for some phenomena that are also relevant to Case. The phenomena, which concerns the trace of a *wh*-element and the moved operator in a relative clause, can be exemplified by the followings.

(5) a. *who does it seem [t to be here]

b. who did you see (Chomsky 1995: 115)

c. *the man (who) it seems to be here

d. the man (who) I see (Chomsky 1995: 116)

As shown in (5a), *wh*-traces, which have no morphological realization, must conform to Case Filter. Since the sentence in (5b) is grammatical, we cannot say that a moved *wh*-phrase is the cause of the ungrammaticality of (5a).

To explain the difference in (5a) and (5b), we need to argue that Case is somehow transmitted from the trace via the chain formed by the movement, and the ungrammaticality of (5a) is caused by the failure of the trace to have Case.

Furthermore, as shown in (5c), the moved operator which does not

necessarily have an overt morphological representation must conform to Case Filter too. Following the explanation of (5a) and (5b), the ungrammaticality of (5c) is caused by the failure of the operator to have Case. If the operator is base generated in a Case position as in (5d), the sentence will be grammatical.

Considering these facts, it seems to be difficult to distinguish the NPs which needs Case in terms of phonetics and morphology. For this reason Chomsky and Lasnik (1993) attributes Case Filter effects to θ-theory and adopts the following condition.

(6) Visibility Condition (Aoun 1979, Chomsky and Lasnik 1993)
A chain is visible for θ-marking if it contains a Case position
－necessarily, its head, by Last Resort.

As shown in (6), it is hypothesized that an argument must be visible for θ-role assignment, and Case renders the argument visible. According to Chomsky and Lasnik (1993), this assumption enables us to distinguish overt NPs, variables, and *pro*, from NP-trace.

Visibility Condition gives a partial explanation to the existence of Case in human language. For a chain to gain a θ-role, the chain needs to contain a Case position. In other words, to have Case is a necessary condition for an argument to gain θ-role.

However, this hypothesis seems to have a problem: the relationship between Case and θ-role seems to be unconvincing. The above mentioned Case Filter is a morphological requirement, and throughout Chomsky (1995), it is adopted that Case needs to be eliminated for the LF-convergence. If we follow this line, Case cannot have a contribution to the semantic interpretation.

However, by Visibility Condition, Case is related with θ-role, which is rather semantic. Chomsky (1995) does not sufficiently explain the relation between the morphological aspect of Case and the effect of Case to the semantic interpretation.

To sum up this section, Chomsky (1995) basically treats Case as a morphological feature, and θ-theory independently deals with the semantic interpretation of the sentence. The Visibility Condition enables us to capture the relation between Case and θ-theory, but the explanation is rather unnatural and unsatisfactory. In the next section, θ-Criterion proposed by Chomsky (1981) will be summarized.

3. θ-Criterion in Chomsky (1981)

In this section, I will briefly sketch θ-Criterion, which was proposed in Chomsky (1981). In Chomsky (1981), θ-Criterion is shown as a reasonable criterion of adequacy for LF, and is defined as follows.

(7) a. θ-Criterion (Chomsky 1981: 36)

Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.

b. θ-Criterion (Chomsky 1986: 97)

Each argument α appears in a chain containing a unique visible θ-position P, and each θ-position P is visible in a chain containing a unique argument α

As shown in (7), θ-Criterion requires that θ-roles and arguments should hold one-to-one correspondence. According to Chomsky (1981), θ-role is a thematic role such as agent-of action, and argument is an expression which is assigned the status of terms in a thematic relation. An argument is assigned a θ-role by virtue of the θ-position that it or its trace occupies in LF. According to Chomsky (1986), noun phrases that require θ-roles are arguments, and nonarguments include expletive elements as *there*.

The definition of arguments in Chomsky (1981) and Chomsky (1986) has a defect: the definition is not independent, and therefore we cannot identify an argument independently with the definition. This may leads us to an empirical problem. Let us consider the following sentence.

(8)*John hit Mary Bill.

The sentence in (8) is ungrammatical. Intuitively, the sentence seems to violate two conditions: Case Filter and θ-Criterion. To be more precise, the overt NP *Mary* (or *Bill*) fails to gain Case, and the argument *Mary* (or *Bill*) fails to gain a θ-role from the verb *hit*. We can straightforwardly say that the sentence in (8) violates Case Filter. The phonetically realized NP *Mary* (or *Bill*) does not have Case because there is only one accusative Case available in the sentence, and therefore the NP in (8) violates Case Filter.

Contrary to our intuition, however, it is difficult to say that the sentence in (8) violates θ-Criterion. This is because *Mary* (or *Bill*) cannot be defined as an argument. As shown above, Chomsky (1981) proposes that an argument is an expression which is assigned a status of terms in thematic relation. To put it differently, an element which is assigned θ-role is an argument. Since the NP

Mary (or *Bill*) is not assigned any θ-role in (8), we cannot say that the NP is an argument. This problem arises because there is no way to define the argument independently.

There is a possibility to capture the violation of θ-criterion in another way: one θ-role is assigned to two arguments. However, it seems to be difficult to say that both *Mary* and *Bill* is assigned a theme θ-role by the predicate *hit*. This is because the θ-position, the complement of the verb cannot be occupied by the two nominal phrases, and therefore the place of the nominal phrases in (8) cannot be defined.[3]

Not only empirically, but also conceptually θ-Criterion is problematic according to Chomsky (1993). In Chomsky (1993), it is argued that we need to postulate an additional level beyond the two external interface levels PF and LF. D-Structure is the internal interface between the lexicon and the computational system. By virtue of conceptual necessity, D-Structure should be eliminated. Since θ-Criterion is a principle of UG which applies to D-Structure and has no independent significance at LF, θ-Criterion should also be eliminated.

Chomsky (1993) argues that the principle is dubious on conceptual grounds though it remains to account for its empirical consequences, and that if the empirical consequences can be explained in some other way and if D-Structure is eliminated, θ-Criterion can be dispensed with.[4] Our new Case theory, which will be presented in the following chapters, can be one way to explain empirical consequences of θ-Criterion.

4. Organization

This thesis will be organized as follows: In Chapter 2 the new Case theory will be introduced. After elaborating the new Case theory and presenting the necessary assumptions and some backgrounds of this thesis, I will show some empirical/conceptual predictions and possible application of the theory. In Chapter 3, I will apply the theory to some English sentences and show how the theory works. In Chapter 4 some characteristics of expletives will be accounted for under the new Case theory, and I will try to capture a difference between languages. Also, some possible patterns of nominal phrases in human language will be considered. In Chapter 5 passivization will be recaptured under the new Case theory. The properties of the passive morpheme and null arguments used in the passive sentence will be proposed, and I will analyze the passive sentence in English. I will try to make an account for anti-passive construction. Furthermore, the parametric variation will be explained with the theory by adopting the difference of the property of the null argument in the language. Chapter 6 will deal with Exceptional Case Marking (ECM) Construction in English, which shows us a difference between lexical NPs and the expletive *there*. By applying the new Case theory to ECM Construction, the characteristics of expletives shown in Chapter 3 will be examined. Chapter 7 will deal with Cognate Object Construction, and try to capture some characteristics of intransitive (unergative) verbs in English under the new Case theory.

Chapter 2
Theory of Case for the Interfaces

1. Introduction

In this thesis I assume the Minimalist Program for linguistic theory as its basics, which was elaborated in Chomsky (1995). According to Chomsky (1995), the aim of the Minimalist Program is to establish the theory of the grammar of the human language which enables us to give proper explanations to the linguistic phenomena, postulating only minimal assumptions which are necessary on the conceptual ground.

In keeping with this notion, only two linguistic levels, the A-P system and the C-I system, and the single computational system C_{HL} for the human language are assumed to exist in the human language. Based on this theory, this thesis will aim at theorizing the role that Case plays in the human language. In this thesis, Case will be treated as an intermediary between C_{HL} and the two linguistic levels: the A-P system and the C-I system. Since we adopt the Minimalist Program, D-Structure, the internal linguistic level, should be eliminated together with θ-Criterion, which is only concerned with D-Structure.

The next section will demonstrate the fundamentals of Case. In the third section, I will elaborate a new Case theory which reflect the idea shown in the second section. In the fourth section some assumptions adopted throughout this thesis will be shown. The fifth section will show what our new theory predicts, and will consider its advantage.

2. Fundamentals of Case Theory

In this section, I will show the fundamental idea on what role Case plays in the human language. In the study of the human language, case has been treated in various ways. As I mentioned in Chapter 1, the word "case" stems from a Classical Greek word, and it was originally used to refer to the morphological variants of a given noun. In the course of the Middle Ages, it became to mean "interrelation between nouns (or words)" and refer to both morphological forms and interpretational relations (Ura 2001).

Since Chomsky (1965), in the Generative Grammar the morphological aspect of case has been pursued mainly. Following this tendency, in the Minimalist Program Case feature has been treated as an [-interpretable] formal feature, which cannot be read by the C-I system (Chomsky 1995).

On the other hand, Fillmore (1968) focuses on the semantic aspect of case and developed Case Grammar, which regards case as a semantic element. In Fillmore (1968), case is treated as an irresolvable semantic primitive, which is fundamental to the sensations: the term case does not refer to the morphological inflection of the noun. Fillmore (1968) argues that "the explanatory value of a universal system of deep-structure cases is of a syntactic and not (merely) a morphological nature. (Fillmore 1968:21)."

The idea argued by Fillmore (1968) has at least two meanings. One is that the case is not merely a morphological element, but an element which is associated with a deep structure in syntax. Another is that by using the term case the idea makes the connection between semantic interpretation and the syntactic structure of the sentence. In the view of Fillmore (1968), it seems

natural that Case has semantic aspects.

In this thesis, I consider that Case plays the role in clarifying the interpretation which the nominal phrase[5] is given in a sentence by referring to the syntactic relation, namely the structural position of the nominal phrase. [6] In narrow syntax, as the derivation moves on, relations between syntactic objects will be built up such as agreement relations and predicate-argument relations. The relations established in narrow syntax determine thematic interpretations and morpho-phonological interpretations of the nominal phrase. What I call a thematic interpretation corresponds to what is called θ-role in Chomsky (1981).

It should be noted that the "meaning", the referent in other words, of the nominal phrase is different from the thematic interpretation of the nominal phrase. The referent of a nominal phrase is defined in the lexicon, independent from the narrow syntax. The referent is defined independently as a lexical property.

Similarly, the morpho-phonological interpretation of the nominal phrase defined in the narrow syntax corresponds to the morphological inflected suffix, and the morphological realization of the root is defined in the lexicon.[7] Only by referring to Case, the interpretations of a nominal phrase in a given sentence can be realized at LF/PF representation. This idea can be illustrated as follows.

(9) | Structural Position of a nominal phrase α | → Case → | semantic/morpho-phonological interpretation of a nominal phrase α |

Owing to Case, the structural position of the nominal phrase will be realized as a

legible information for the C-I system or the A-P system. In other words, the C-I system and the A-P system get the necessary information on the structure of the sentence from Case.

In this thesis, I will assume that there are (at least) two interpretations which Case realizes. One is the morpho-phonological interpretation[8] of the nominal phrase. Thanks to Case, the structural information is realized in the PF-representation. The realized morpho-phonological interpretation will be read by the A-P system, and by reading the relation, the A-P system has accesses to the structural information. In the A-P system, the sentence, which is an input of the system, has no structure. However, in order to decide the morpho-phonological form of an NP or a verb, the structural information is necessary. Case enables the A-P system to get the structural information of a nominal phrase in a sentence.

The other interpretation is the thematic interpretation of a nominal phrase in the sentence. As I argued above, the thematic interpretation of a nominal phrase is decided by a relation of the nominal phrase with a predicate in a given sentence. Since the relation is ensured in the structure, the structural information is necessary in LF representation. The structural information in the LF representation is realized by Case, and it enables the C-I system to read the thematic interpretation of a nominal phrase. The C-I system has accesses to the structural information of a sentence, and makes the thematic interpretation of a nominal phrase. Case enables the C-I system to gain the thematic interpretation of the nominal phrase in a given sentence.

It should be noted that the structural information is necessary not only to the A-P system but also to the C-I system. As a piece of evidence, let us

consider the following sentences.

(10) a. John hit Mary.

b. Mary hit John.

In the sentence (10a), *John* is the agent and *Mary* is the theme of the predicate *hit*. On the other hand, in (10b), *John* is the theme and *Mary* is the agent of the predicate. The only difference between the two sentences comes from the structural position of the nominal phrases. In (10a), the nominal phrase *John* is in the subject position of the sentence, and *Mary* is in the object position of the sentence. In (10b), *John* is in the object position, and *Mary* is in the subject position. To derive the intended meanings from the sentences, it is necessary to reflect the structural information at the LF representation so that the C-I system can gain the information.

The sentences may seem to be possible to be explained by referring to the linear order of the sentence. However, since the linear order is decided at the A-P system after Spell-out, it is impossible for the C-I system to refer to the linear order. To capture the phenomena, we need to assume that the C-I system have access to the syntactic position by referring to Case.

To summarize this section, in this thesis, Case is regarded as a clarifier of the structural information of the sentence. The information of the structure constructed in C_{HL} is realized in the two linguistic levels by Case. In the next section, the fundamental idea shown in this section will be theorized based on the Minimalist Program.

3. Case as a Function

As shown in the previous section, this thesis will treat Case as a means of conveying the structural information to the interfaces. This idea can be theorized formally by regarding Case as a function. It should be noted that the term function in this thesis is used in a mathematical sense: a function is a special kind of relation. A relation R from A to B is a function if and only if it meets both of the following conditions.

(11) Conditions to be Function (Partee, Meulen and Wall 1990: 30)

a. Each element in the domain is paired with just one element in the range.

b. The domain of R is equal to A.

Relations which satisfy condition in (11a) but perhaps fail condition in (11b) are sometimes regarded as a "function". If a function fails to satisfy the condition in (11b), the function is customarily designated as "partial functions". Following Partee, Meulen, and Wall (1990), what I call "function" here indicates a single-valued mapping whose domain may be less than the set A containing the domain: the term "function" includes the partial function.

In this thesis, Case will be treated as a partial function from the syntactic position of a nominal phrase to some information which is necessary at the C-I system or the A-P system. In other words, Case transforms the structural information into a legible information for the C-I system or the A-P system. Case is not a feature, and any operation concerning Case is not for feature checking.[9] In this thesis, "syntactic position" will be represented by a

syntactic operation such as Merge. The domain of the function Case is the operation which the nominal phrase has undergone.[10]

Since there are two kinds of information realized by Case and different kinds of information should be read by the different interfaces, I hypothesize here that there are two types of Case in the human language: one for the A-P system and the other for the C-I system. Hereafter, the Case for the A-P system will be called "M-Case (Morphological Case)", and the Case for the C-I system will be called "D-Case (Diathetic Case)". In what follows I will show the precise definition of each Case.

M-Case is a function from a syntactic position of a nominal phrase to a morpho-phonological interpretation which the nominal phrase has. M-Case enables the A-P system to recognize the morpho-phonological interpretation of a nominal phrase in the sentence. In this thesis, I will define the function of M-Case of a nominal phrase α [f_M] with the domain and the range of the M-Case of α as follows.

(12)f_M: syntactic position of α→the morpho-phonological interpretation of α

As shown in (12), the domain of the M-Case of α is the syntactic position of α and the range is the morpho-phonological interpretation of α.

In this thesis I hypothesize that Case is a partial function, and not all syntactic position is eligible for a domain of Case. The syntactic position which is eligible for the domain of M-Case is Move[11] to the position which is assigned M-Case.[12] The M-Case assigner is the head T, P, and some verbs.[13] What I call Move here is equivalent to Internal Merge in Chomsky's (2001) sense. According to Chomsky (2001), Merge is an indispensable operation of a

recursive system which takes two syntactic objects α and β and forms the new object γ = {α, β}. The range of M-Case of the nominal phrase α is the morpho-phonological interpretation which α has in the sentence.

It should be noted that the morpho-phonological interpretation is not a morphological declension of a nominal phrase, and the declension is a morphological realization of M-Case. To put it differently, the declension of a nominal phrase is an accidental expression of M-Case of the phrase, and the M-Case of the phrase provides a morpho-phonological information which is concerned with the whole sentence, not a morphological form of the nominal phrase.

If the M-Case of α succeeds to define a value as a result of having an eligible syntactic position in the domain as its argument, the A-P system can recognize the morpho-phonological interpretation of α by interpreting the information which M-Case realizes. If the M-Case of α fails to have an eligible argument, the M-Case cannot define its value.

Now let us turn to D-Case. D-Case is a partial function from the syntactic position of a nominal phrase to a thematic interpretation which the nominal phrase has in the derivation. D-Case enables the C-I system to recognize which nominal phrase bears the thematic interpretation as an argument for the predicate in the sentence. I will define the function [f_D] with the domain and the range of the D-Case of a nominal phrase α as follows.

(13) f_D: syntactic position of α → the thematic interpretation of α

As shown in (13), the domain of the D-Case of α is the syntactic position of α, and the range is the thematic interpretation which α bears in the sentence. The

syntactic position which is eligible for the domain of D-Case is Merge with the D-Case assigner[14]. The D-Case assigner is the head such as P and some verbs.[15] What I call Merge in this thesis is equivalent to External Merge in Chomsky's (2001) sense.[16] The range of D-Case is the thematic interpretation which a nominal phrase bears. "Predicate" in the representation expresses the thematic interpretation assigner. If the D-Case of α succeeds to define the value as a result of having the eligible syntactic position in the domain as its argument, the C-I system can recognize that α bears the thematic interpretation that needs to exist in the sentence.

Each Case of α gets the argument if α undergoes the syntactic operation which is eligible for the Case. If the syntactic operation is ineligible for the Case, the Case fails to define its value. When the syntactic object with a Case undergoes the syntactic operation which is ineligible for the Case, nothing will happen on the Case because the operation cannot be regarded as an argument of the Case. Since there is no argument, it is natural for the function not to have a specified value.

Note that ineligible syntactic operations for the Cases do not cause the ungrammaticality of the sentence: even if a syntactic object with Case undergone an operation which is ineligible as the domain of Case, the derivation may not crash. Furthermore, the failure of the Case to have a value does not necessarily cause the ungrammaticality of the sentence. The ungrammaticality will be caused when the conditions proposed below are not fulfilled.

Now let us turn to the condition on Case. Our new Case theory enables us to subsume the condition on Case to more general condition on the interface. In the human language, there should be a general condition on the interfaces by

virtue of their nature. The condition is what Chomsky (1995) calls "the principle of Full Interpretation" or "interface condition". In Chomsky (1995), it is said that the condition of Full Interpretation is satisfied if a generated representation consists entirely of "legitimate objects" that can receive an interpretation. A derivation converges at one of the interface levels if it yields a representation satisfying the condition of Full Interpretation at this level, and converges if it converges at both interface levels, PF and LF; otherwise, it crashes. There being so many ways to state the condition, I will state the condition as follows.

(14) The derivation converges only if both representations for PF and LF are legitimate.

As shown in (14), derivations need to produce a legitimate representation for PF and LF. The condition shown in (14), which is called Full Interpretation, is a principle which requires all the features to be legible at the interfaces.

According to Chomsky (1991), the notion of "Full Interpretation" requires that representations be minimal in a certain sense, in the same way with the Last Resort condition on movement. Chomsky (1991) argues that general principles as guidelines have a kind of "least effort" flavor, and the guidelines legislate against "superfluous elements" in representations and derivations. The syntactic operation is allowed only if the operation is necessary for the sentence to have a legitimate representation.

In order to produce the legitimate representation, the value of Case, the functor from the structural information to the Interfaces, is necessary in the representation. Therefore the condition stated in (14) affects Case. If we

succeed to deduce Case Filter to the condition in (14), there is no need to have a special condition on Case.

In what follows, I will define what decides the legitimacy, and argue that Case Filter can be deduced to the condition shown in (14). For a PF-representation to be legitimate, I demand that it needs to fulfill the following condition.

(15) A PF-representation is legitimate iff
  i) it includes all the necessary morpho-phonological interpretation, and
  ii) it has no superfluous interpretation.[17]

As shown in (15), a PF-representation needs to include all and only the necessary morpho-phonological interpretation required. We presume in this thesis that the morpho-phonological interpretation of the nominal phrase will be defined if the M-Case of a nominal phrase is applied to an argument. In order for M-Case to be applied, M-Case needs to have an argument which conforms to the domain of M-Case.

Recall that the domain of M-Case is a syntactic position of the nominal phrase, which is denoted by referring to the syntactic operation which the nominal phrase has undergone. Therefore, in order to fulfill the condition shown in (15i), the nominal phrase with M-Case needs to undergo the eligible syntactic operation as an argument, and as a result of the application of the M-Case of the nominal phrase, the PF-representation may have a necessary morpho-phonological interpretation. Since the condition requires the nominal phrase to undergo the syntactic operation, this condition will supplant the

previous Case Filter.

Now, let us turn to (15ii). In order to fulfil the condition in (15ii), we need to define the necessary morpho-phonological interpretation in the derivation. In this thesis, I assume that the nominal phrase which is able to induce the agreement on verbs needs to have a morpho-phonological interpretation in English.[18] Following this assumption, the nominal phrase in the derivation will decide the necessary morpho-phonological interpretation. If there is a nominal phrase which has M-Case and which does not need to have a morpho-phonological interpretation, the nominal phrase cannot undergo a movement which can be an argument of M-Case in order to fulfil the condition in (15ii)

It should be noted that (at least in English) the same movement cannot be taken as an argument of M-Case in the same derivation.[19] To put it differently, the M-Case which has the same syntactic position as its argument cannot occur in the single derivation.

The difference between the previous Case Filter and the condition shown in (15) is that it is not necessary for all “NP” in the derivation to gain the domain in order to make the sentence grammatical. In the previous Case Filter, as shown in Chapter 1, a phonetically realized NP is required to have Case. In this system, the necessity of Case depends on the category of the element.

In the Minimalist Program, since Case is treated as [-interpretable] feature, it must be checked anyhow, and exception could not exist; no phonetically overt NP exists in the grammatical sentences without checking its Case. If there is a nominal phrase which does not seem to undergo Case checking, we need to treat it as an exception: we need to assume that the nominal phrase does not have

Case feature for some reason.

On the other hand, in our theory, M-Case which lacks its domain does not necessarily lead to the ungrammaticality. If the PF-representation includes all the necessary morpho-phonological interpretation, the derivation does not need an operation any more. If the operation which makes a superfluous interpretation takes place, the sentence will be ungrammatical. The decision as to whether the morpho-phonological interpretation is necessary or superfluous will be made by the functional head in a sentence or the property of the nominal phrase at issue.

It is important to note that M-Case which gives the necessary value requires an overt movement in order to meet the condition in (15). This can be derived from the assumption that Spell-out transmits the information in the derivation to the A-P system. Since the range of M-Case is required by the A-P system, M-Case needs to have an argument before Spell-out which is eligible for M-Case, and define its value. If the operation takes place after Spell-out, the PF-representation fails to have a necessary morpho-phonological interpretation, and the condition in (15) is not satisfied. This is why the Case is said to be a driving force of movement in the previous Case theory.

Now, let us turn to the legitimacy of LF-representations. For an LF-representation to be legitimate, it needs to fulfill the following condition.

(16) An LF-representation is legitimate iff

i) it includes all the necessary thematic interpretation,

and

ii) it has no superfluous interpretation.

As shown in (16i), an LF-representation needs to include all and only the necessary thematic interpretation required. If the whole LF-representation fails to fulfil the requirement, the derivation does not converge. The necessary thematic interpretation is determined by the predicate of the sentence. When a D-Case of a nominal phrase has the eligible syntactic position as its argument, the D-Case gives us back the thematic interpretation of the nominal phrase as its value. In order for a derivation to fulfil the condition in (16i), all the thematic interpretation which is required by the predicate should be included in the LF-representation.

Now, let us turn to (16ii). If there are more than one D-Case which have the same syntactic position in a single derivation, the D-Cases will have the same semantic interpretation as its value. As a result, the LF-representation of the derivation will have a superfluous semantic interpretation.

The condition in (16) will take place of the previous θ-Criterion. (16i) is equivalent to "each θ-role is assigned to one argument", and (16ii) is equivalent to "each θ-role is assigned to only one argument". Such situation is eliminated in principle.

It should be noted that in this thesis I will define an argument as a syntactic object which has a value of its D-Case. To put it differently, if a syntactic object which has a D-Case undergoes a syntactic operation which is eligible for D-Case, then the syntactic object becomes an argument of a predicate in the sentence. Since I assume in this thesis that Merge is the operation which is eligible as an argument of D-Case and Move is ineligible, one argument cannot be assigned more than two thematic interpretation in the derivation: since one syntactic object cannot be externally merged for multiple

times in the derivation, so it is impossible for the nominal phrase to have more than two value of D-Case. As a result, in our system, we do not need to think about the part of the previous θ-Criterion "each argument bears one and only one θ-role".

To sum up, this section showed the main proposal of this thesis. I proposed that there are two types of Case in the human language: M-Case and D-Case. M-Case is the function from a syntactic position to the morpho-phonological interpretation of a given nominal phrase. D-Case is the function from a syntactic position to the thematic interpretation of a given nominal phrase. In order for the derivation of a sentence to converge, its LF/PF representation needs to include the necessary thematic/morpho-phonological interpretation. By adopting our new Case theory, Case Filter and θ-Criterion are both reduced to the more general condition shown in (14). In the next section, I will show some theoretical assumptions and notations which I will use in this thesis.

4. Theoretical Assumptions and Notations

In this section, I would like to show some theoretical assumptions which I adopt throughout this thesis and the notations which I use in this thesis in order to represent the new Case theory.

As shown in the previous section, I assume that Spell-out is an operation with which a formed syntactic structure is sent to the A-P system. This is in almost the same line with Chomsky (1995), rather than the more recent works of Chomsky. This assumption leads us to the requirement that the domain of

M-Case should be given before Spell-Out, and therefore for M-Case to be applied to an argument and to define its value, the overt movement should take place if the value of the M-Case is required.

The difference between Chomsky (1995) and this thesis is what is assumed to be sent to the A-P system. In Chomsky (1995), it is proposed that Spell-out strips away from the formed structure those elements relevant only to PF-representation. In this thesis, I will assume that the whole syntactic structure will be sent to the A-P system.

This assumption may lead us to capture the morphological difference of the Case system between languages. To be more precise, the assumption enables us to explain the difference between Ergative languages and Accusative languages. In a few words, Ergative language is a language whose D-Case has a morphological realization, and Accusative language is a language whose M-Case has a morphological realization. It is too difficult for me to prove this, I will leave this point for the future research.

Secondly I will assume that the necessary thematic interpretation, which will define the legitimacy of the LF-representation, is determined by the predicate. This is what the previous studies call argument structure of the predicate. According to Chomsky and Lasnik (1993), the argument structure is specified by the semantic selection and thematic properties of lexical heads: verbs, nouns, adjectives, and pre-or postpositions. The argument structure indicates how many arguments the head licenses and what semantic role each receives. The required semantic interpretation depends on the predicate which is used in the sentence. Therefore, the condition in (16) will be applied representationally rather than derivationally. On the other hand, the necessary

morpho-phonological interpretation will be determined by the nominal phrase which is in the derivation. It is decided as a lexical property of the nominal phrase if the morpho-phonological interpretation is necessary or not.

Thirdly, in this thesis, I assume that the syntactic operation is allowed only if the operation is necessary for the sentence to have a legitimate representation. Therefore, if there is an operation which leads a superfluous interpretation, the derivation will crash. If the operation feeds a necessary interpretation, the operation is allowed. Furthermore, if the operation is necessary for checking an [-interpretable] feature, it is also allowed. In this thesis, I will refer to EPP-feature as an [-interpretable] feature which causes the movement.

Now, let us turn to the representation used in this thesis. In this thesis, I will describe the syntactic position of α by referring to the operation which α undergone. Since the syntactic position is a result of the syntactic operation, the position will be identified by referring to the syntactic operation. For example, the following representation will be used.

(17) a. Merge hit_2

b. Move to [Spec, hit_1]

c. Merge hit_1

(18) $[_{TP}$ John$_i$ T $[_{vP}$ Mary$_j$ t$_i$ hit$_1$ $[_{VP}$ hit$_2$ t$_j$]]]

In this thesis, I will use the representation as shown in (17). The position of the trace of *Mary* in (18) will be referred to as (17a). The position of the *Mary* will be referred to as (17b). The position of the trace of *John* will be referred

to as (17c). In this thesis, I will call the position which is occupied by the Moved syntactic object "Specifier". The syntactic object will make some kind of relation with the target of the movement. In order to make it clear which syntactic object is a target of the operation, I will refer to the name of a head, not the name of a phrase.[20] Furthermore, I will distinguish the syntactic position by the operation. To be more precise, the nominal phrase *Mary* and the trace of *John* in (18) both seems to be in the Spec of hit_1. However, these two are in the position in a different way. The nominal phrase *Mary* is in the position by Move, and the trace of *John* is in the position by Merge. Since the difference will be crucial for our Case system, I will use such representation.

In this thesis, there is another representation that needs to be noted. In the following chapters, I will use the term "morphological relation with X" as a range of M-Case. This is because the range of M-Case will be the morpho-phonological interpretation of the nominal phrase, and the interpretation is regarded to be defined by the relation which the nominal phrase gains in the derivation. The relation itself is not a range of M-Case.

This section shows some assumptions and notations which will be used in the following part of this thesis. Some more assumptions may be added in the following part if necessary.

5. Some Predictions of the Theory

The theory shown in the previous sections has some consequences and makes some empirical predictions. This section will mention two of the consequences and predictions.

The first point is that the theory enables us to explain why there are so many phenomena which shows that Case of a nominal phrase relates to the semantic interpretation of the nominal phrase. As argued above, in Chomsky (1995), Case feature is treated as an [-interpretable] feature. Since [-interpretable] features need to be checked and deleted for the derivation to converge, the feature should not be accessible from the C-I system: the C-I system should not interpret [-interpretable] features. If so, Case should not be concerned in the semantic interpretation. However, making careful observations, there are many phenomena which shows the relation between Case and the semantic interpretation. Case marking in Shinhala is one example among many which shows that Case affects the semantic interpretation. According to Chou and Hettiarachchi (2012), in Shinhala, the semantic interpretation of the sentence differs depending on the morphological Case marking. If the subject is marked by nominal Case, the sentence will be interpreted to mean that the action is volitional. If the subject is marked by dative Case, the sentence will be interpreted to mean that the action is involitional. The Case of the subject nominal phrase decides the volitionality of the sentence. Since the Case feature is [-interpretable] to C-I system, to explain the fact, we need to assume that there is a special correlation between Case and semantic interpretation. If so, it seems to be unnatural that there are many similar phenomena in many languages.

Our new Case theory reduces the problem. Since we adopt that there is a Case which is interpreted by the C-I system, the Case can affect the semantic interpretation. It is no longer unnatural for Case to affect the semantic interpretation.[21]

The second point is that nonstructural Case can be captured by our new Theory. According to Woolford (2006), there are two types of nonstructural Case: Lexical Case and Inherent Case. Lexical Case is idiosyncratic Case, lexically selected and licensed by certain lexical heads, and Inherent Case is more regular, associated with particular θ-positions. Woolford (2006) argues that the two types of nonstructural Case differ about the kinds of θ-positions with which these Case can be associated and the pattern turns out to be one of complementary distribution: Lexical Case may occur on themes/internal arguments, but not on external argument or on (shifted) DP goal arguments, and Inherent Case may occur on external arguments and on (shifted) DP goal arguments, but not on themes/internal arguments. If we assume that Case feature is [-interpretable], we need to argue that Case, which does not have a semantic contribution, is somehow related to the meaning of the sentence. It seems to be difficult for us to give a proper and natural explanation to the mechanism of Lexical Case, which requires us to refer to a lexical head in the sentence.

Our new Case Theory may solve the problem. As mentioned above, the domain of M/D-Case is expressed by referring to the head with which a nominal phrase has a syntactic relation. In other words, the (lexical) head can affect the value of M/D-Case of the nominal phrase. Therefore it may become easier for us to relate the lexical head and Case of the nominal phrase if we adopt our new Case theory.

It is important to note that both points shown above mean that our new Case theory is not merely a replacement of Case Filter and θ-Criterion. By adopting the function Case, the semantic/thematic interpretation and the

morphological form of a nominal phrase can be organically united.

In the next Chapter, I will apply this proposal to some basic English sentences and show that our theory can capture what Case Filter and θ-Criterion did (and cannot) in the previous studies.

Chapter3

Application of the Theory to English

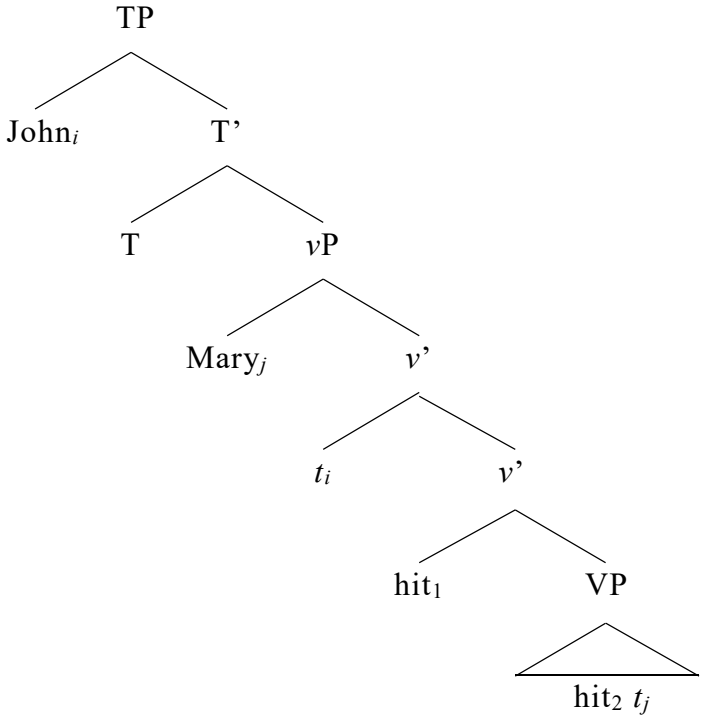
1. Transitive Verbs

In what follows, I will show how our new theory works in English. First, let us consider transitive verbs in English, taking the following sentence as an example.

(19) John hit Mary.

The sentence (19) is a grammatical sentence. There are two nominal phrases in the sentence: *John* and *Mary*. The structure of the sentence and Cases of the nominal phrases will be as follows.

(20) Structure of (19)



(21) Cases of *John*[22]

a. f_D: Merge hit_1 → *hit*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(22) Cases of *Mary*

a. f_D: Merge hit_2 → *hit*, internal argument

b. f_M: Move to [Spec, hit_1] → morphological relation with hit_1

(20) illustrates the structure of the sentence shown in (19) that I assume in this thesis. Hit_1 and hit_2 indicates the internal structure of the verb *hit*. Hit_1 is what is called *v* in many other studies, and hit_2 is equivalent to V. In order to identify the verb with the name of the head in the structure, I will use the above-mentioned notation in this thesis. Each Case of *John* and *Mary* is as shown in (21) and (22).

As shown in (21a), D-Case of *John* takes [Merge with hit_1] as its argument and gives us back an information that *John* is an external argument[23] of the verb *hit* as its value. The D-Case of *John* enables the C-I system to recognize that *John* is an external argument of the predicate *hit*. As shown in (21b), the M-Case of *John* takes [Move to [Spec, *T*]] as its argument, and gives us back an information that *John* has a morphological relation with *T* as its value. The M-Case of *John* enables the A-P system to recognize that *John* saturates the requirement that the nominal phrase *John* needs a morpho-phonological interpretation by having the relation with a Case assignor. .

As shown in (22a) and (22b), two Cases of *Mary* works in the same way with *John*'s, and the whole derivation converges since the all necessary interpretation is included in both LF and PF representation. Namely, the

LF-representation includes the thematic interpretation [*hit*, internal argument] and [*hit*, external argument]. The predicate *hit* in the syntactic structure requires two arguments, and the two required thematic interpretation is included in the LF-representation of the derivation since the D-Case of *Mary* and *John* has the argument which is necessary for them to give us back a value. Therefore, the LF-representation meets the condition in (16).

Now, let us turn to the morpho-phonological interpretation of the nominal phrases. The nominal phrase *John*, which requires a morpho-phonological interpretation, has the morpho-phonological interpretation by having an argument [Move [*T*, Spec]]. As a result, the M-Case of *John* has a value which is referred to by the morphological relation [morphological relation with *T*]. Similarly, the nominal phrase *Mary*, which also requires a morpho-phonological interpretation, has the morpho-phonological interpretation referred to by the morphological relation [morphological relation with hit_1]. Since the M-Cases of the nominal phrases which need a morpho-phonological interpretation each have their arguments, the PF-representation of the sentence succeeds to have all the necessary morpho-phonological interpretation as the value of M-Case, and meets the condition in (15).

As shown above, the LF-representation meets the condition in (16), and the PF-representation meets the condition in (15). As a result, the sentence meets the condition in (14), and the derivation converges.

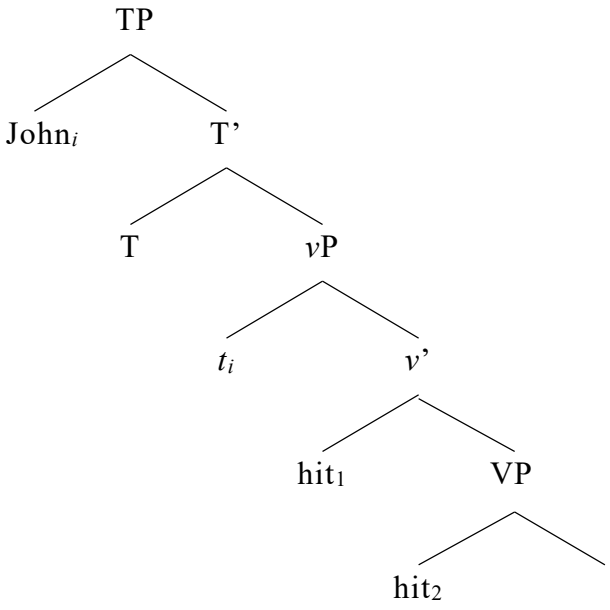
Now, let us turn to the following example, which is ungrammatical.

(23) a. *John hit.

b. *John hit Mary Bill.

The sentences in (23) are both ungrammatical. To capture the ungrammaticality, θ-criterion has been utilized since Chomsky (1981), and it seems to be the only way to give an explanation to (23a). However, our new Case theory enables us to give another explanation to these kinds of facts. The structure and Cases of (23a) is as follows.

(24) Structure of (23a)



(25) Cases of *John* in (24)

a. f_D: Merge hit_1 → *hit*, external argument

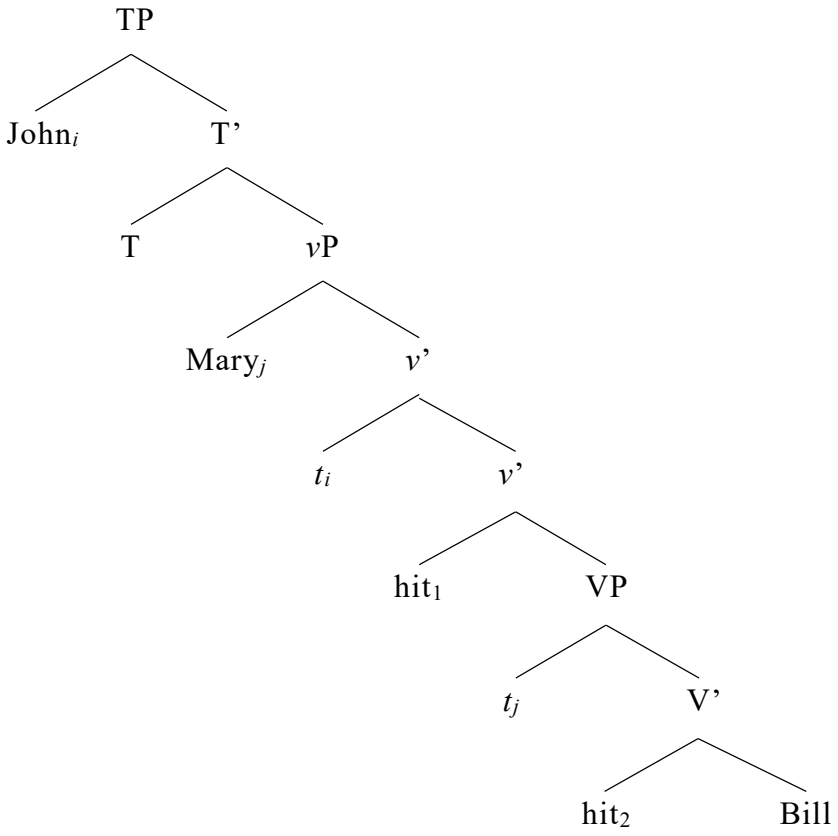
b. f_M: Move to [Spec, *T*] → morphological relation with *T*

As shown in (24), hit_2 firstly merge hit_1, which does not have a D-Case. As a result, there is no D-Case in the derivation which has [*hit*, internal argument] as its range. Therefore the LF-representation of (23a) fails to have the necessary thematic interpretation, namely the internal argument of the verb *hit*. Because there is an undefined thematic interpretation in the LF-representation, the

condition shown in (16) is not satisfied, and it causes the ungrammaticality of the sentence in (23a).

Now, let us turn to (23b). The ungrammaticality of (23b) seems to be able to be explained in two ways in the previous theory. The first possibility is to use θ-criterion as well. The argument *Bill* fails to have the θ-role and it causes a violation of the θ-criterion. Another possibility is to capture the phenomenon with Case theory. The overt nominal phrase *Bill* fails to get Case, and this can be the reason the sentence becomes ungrammatical. Our new Case theory enables us to capture the ungrammaticality in a different way. The possible structure[24] and Cases of (23b) are as follows.

(26) Structure of (23b)



(27) Cases of *John* in (26)

a. f_D: Merge hit_1 → *hit*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(28) Cases of *Mary* in (26)

a. f_D: Merge hit_2 → *hit*, internal argument

b. f_M: Move to [Spec, hit_1] → morphological relation with *hit*

(29) Cases of *Bill* in (26)

a. f_D: Merge hit_2 → *hit*, internal argument[25]

b. f_M: no eligible argument → undefined[26]

According to the structure shown in (26), each Case that *John*, *Mary*, or *Bill* have will be as shown in (27), (28), and (29). There are two reasons of the ungrammaticality in the sentence in (23b).

One reason is the D-Case of *Mary* and the D-Case of *Bill*. Since two Cases have the same argument [Merge hit_2], the two Cases gives us back the same value [*hit*, internal argument]. Therefore the LF-representation of the sentence has two same thematic interpretations. Since the thematic interpretations are superfluous, the condition in (16) is not satisfied: the LF-representation includes a superfluous thematic interpretation. The overage of the thematic interpretation in the derivation causes the ungrammaticality. In order for us to say that the interpretation is superfluous, we need to adopt that the predicate *hit* has only one internal argument, which is very common to adopt.

The other reason is that the M-Case of *Bill* does not have a value. Since

Bill does not undergo any movement which is in the domain of M-Case, the M-Case of *Bill* fails to have an argument. Therefore, the M-Case of *Bill* fails to have its value. Since I adopt the restriction that the single derivation cannot have the same morpho-phonological interpretation multiply in English, the nominal phrase *Bill* cannot move to the Specifier of hit_1 in order to have the value [morphological relation with hit_1]. Since *Bill* is a nominal phrase which requires the morpho-phonological interpretation, the failure of the M-Case of *Bill* to have an argument, the derivation will fail to meet the condition shown in (15): the necessary morpho-phonological interpretation is not included in the PF-representation.

It should be noted that since our Case theory enables us to give an explanation for the ungrammaticality in the sentences shown in (23), the empirical consequences of θ-Criterion can be subsumed into our new Case theory. The requirement of one-to one relation of the thematic role can be recaptured by the condition shown in (16). To be more precise, according to the condition in (16), the shortage/overage of the thematic interpretation in the LF-representation, which θ-criterion has tried to capture.

It is important to note that in this thesis the adjacency requirement on Case assignment can be deduced to the movement for M-Case.

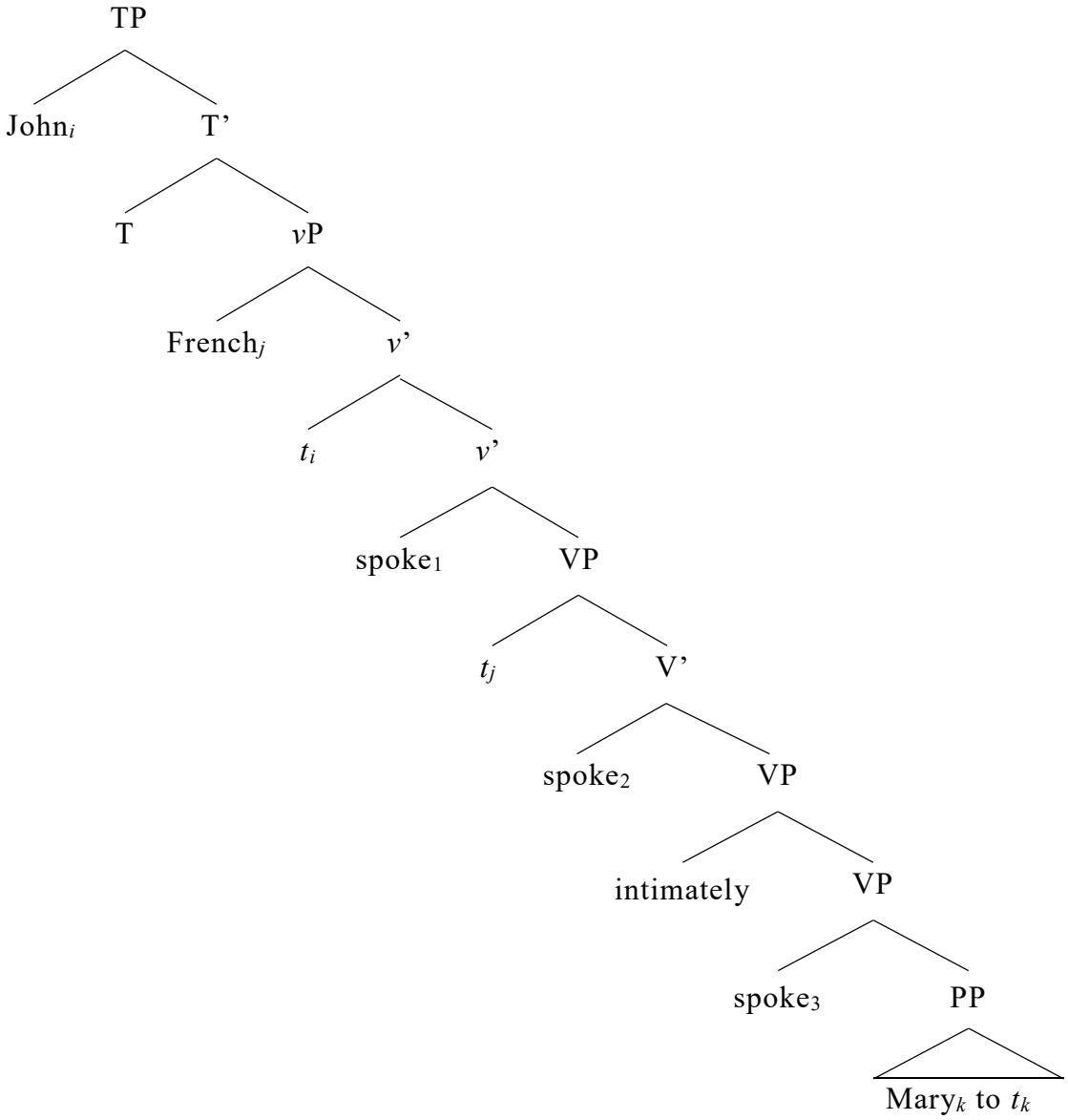
(30) a. John spoke French intimately to Mary.
b. John spoke French to Mary intimately.
c. *John spoke intimately French to Mary. (Bowers 2001: 315)

As shown in (30), there is a restriction on the placement of adverbs in English.

The difference in grammaticality between (30b) and (30c) shows that adverbs in English cannot be placed between a verb and a nominal phrase which has accusative Case. On the other hand, as shown in (30a), adverbs can be placed between a verb and a PP-complement.

It is possible for us to explain the fact by assuming that the adverb is adjoined to VP, not to *v*P, in the sentence. To be more precise, the structure of the sentence shown in (30a) and Cases of the included nominal phrases are as follows.

(31) Structure of (30a)[27]



(32) Cases of *John* in (31)

a. f_D: Merge *spoke*$_1$ → *spoke*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(33) Cases of *French* in (31)

a. f_D: Merge *spoke*$_2$ → *spoke*, internal argument

b. f_M: Move to [Spec, *spoke*$_1$] → morphological relation with *spoke*

(34) Cases of (*to*) *Mary* in (31)[28]

a. f_D: Merge $spoke_3$ → *spoke*, second-internal argument[29]

b. f_M: Move to [Spec, *to*] → morphological relation with *to*

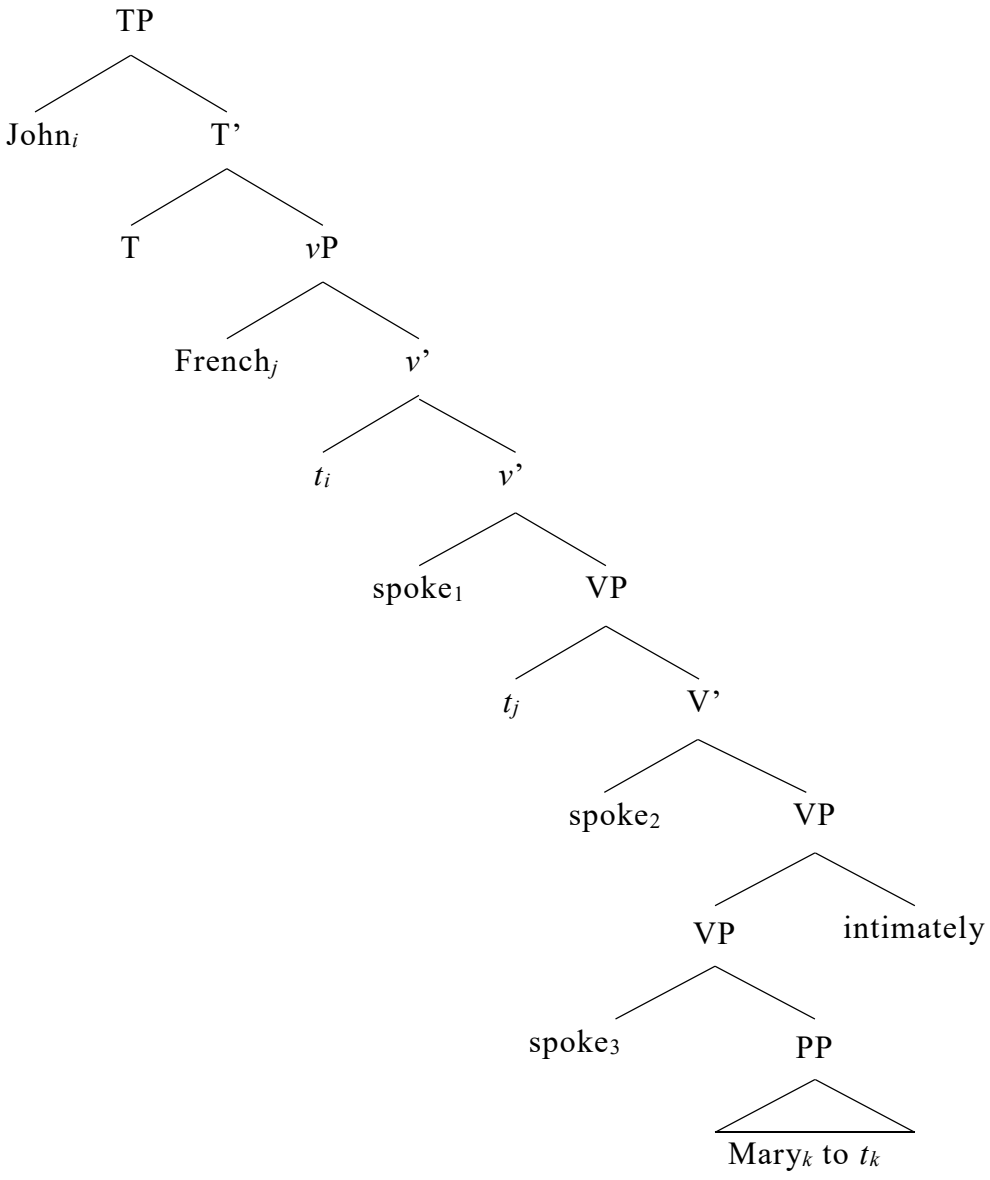
According to the structure shown in (31), each Case of *John*, *French*, and *to Mary* in (30a) is as shown in (32), (33) and (34). As shown in (32a), since the nominal phrase *John* is Merged to $spoke_1$, the D-Case of *John* has [Merge $spoke_1$] as its argument, and gives us back a value [*spoke*, external argument]. The movement of *John* to [Spec, *T*] is in the domain of M-Case, the M-Case of *John* has [Move to [Spec, *T*]] as its argument, and gives us back the value [morphological relation with *T*]. As shown in (33), the D-Case of *French* has [Merge $spoke_2$] as its argument, and gives us back the value [*spoke*, internal argument], and the M-Case of *French* has [Move to [Spec, $spoke_1$]] as its argument, and gives us back the value [morphological relation with $spoke_1$]. As shown in (34), the D-Case of (*to*) *Mary* has [Merge $spoke_3$] as its argument, and gives us back a value [*spoke*, second-internal argument], and the M-Case of *Mary* has [Move to [Spec, *to*]], and gives us back a value [morphological relation with *to*].[30]

Since three necessary thematic interpretation which is required by the predicate *spoke* is in the LF-representation, the derivation in (31) meets the condition in (16). In the derivation in (31), there are three nominal phrases which requires a morpho-phonological interpretation, and each M-Case has an argument and gives us back a morphological relation which shows us the morpho-phonological interpretation of the nominal phrase as its value. Therefore, the PF-representation of (31) has all and the only necessary

morpho-phonological interpretation, and the condition shown in (15) is met by the derivation in (31).

Now, let us turn to the sentence in (30b). The structure of the sentence shown in (30b) and the Cases in (30b) is as follows.

(35) Structure of (30b)



(36) Cases of *John* in (35)

a. f_D: Merge *spoke*$_1$ → *spoke*, external argument

b. f_M: Move to [Spec, *T*] → morphological relation with *T*

(37) Cases of *French* in (35)

a. f_D: Merge *spoke*$_2$ → *spoke*, internal argument

b. f_M: Move to [Spec, *spoke*$_1$] → morphological relation with *spoke*

(38) Cases of (*to*) *Mary* in (35)

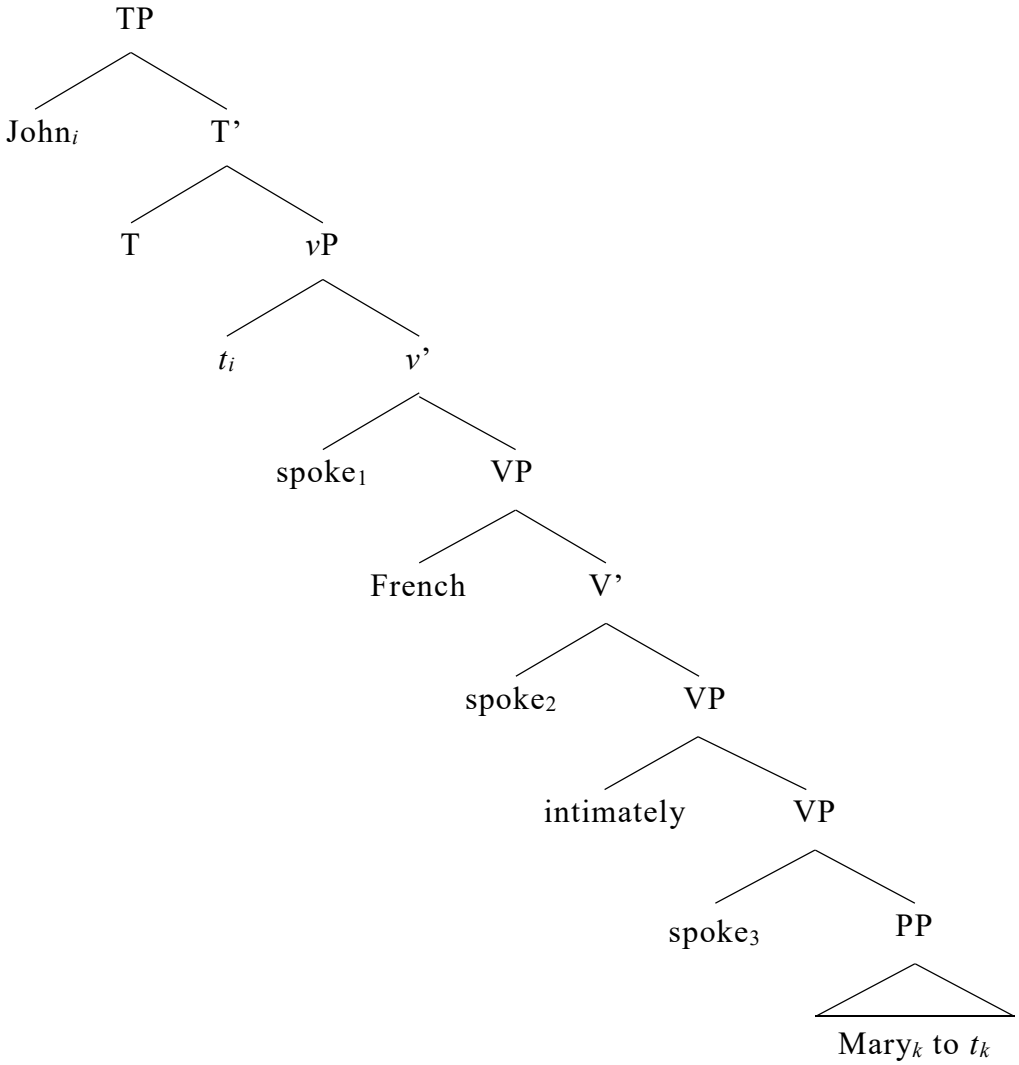
a. f_D: Merge *spoke*$_3$ → *spoke*, internal argument

b. f_M: Move to [Spec, *to*] → morphological relation with *to*

According to (35), each Cases of *John*, *French*, and (*to*) *Mary* in (30b) is as shown in (36), (37) and (38). The structural difference between (31) and (35) is the position of the adverbial phrase intimately, and it does not have any effect on the arguments of the Cases in the derivation, and therefore the pair of the arguments and the values of each nominal phrases does not differ between (31) and (35).

The difference will be caused when the adverbial phrase intimately intervenes between the verb spoke and the nominal phrase French, the case shown as (30c). The structure of (30c) and the Cases in the derivation is as follows.

(39) Structure of (30c)



(40) Cases of *John* in (39)

a. f_D: Merge *spoke*$_1$ → *spoke*, external argument

b. f_M: Move to [Spec, *T*] → morphological relation with *T*

(41) Cases of *French* in (39)

a. f_D: Merge *spoke*$_2$ → *spoke*, internal argument

b. f_M: no domain → no eligible value

(42) Cases of (*to*) *Mary* in (39)

a. f_D: Merge $spoke_3$ → *spoke*, internal argument

b. f_M: Move to [Spec, *to*] → morphological relation with *to*

According to (39), each Cases of *John* and *French*, and (*to*) *Mary* in (30c) is as (40), (41) and (42). As shown in (40), and (42), the Cases of *John* and (to) *Mary* in (30c) have the same argument as the Cases in (30a) and (30b), and therefore gives us back the same values. As shown in (41a), the D-Case of *French* has the same argument as other sentences.

The difference in grammaticality between (30a, b) and (30c) is caused by the M-Case of *French*. Each M-Case of *French* in (30a) and (30b) has the domain [Move to [Spec, $spoke_1$]] and the sentence is grammatical. On the other hand, the M-Case of *French* in (30c) fails to have an eligible argument. Since we assume that the adverb intimately adjoins to VP, not to *v*P, there is no way for *French* to be placed in [Spec, $spoke_1$].[31] As a result, the PF-representation of (30c) does not have a necessary interpretation and fails to fulfil the requirement shown in (15).

As shown above, the adjacency requirement on Case can be explained by the lack of an argument of M-Case of the internal argument of the predicate. In the previous Case theory, the similar explanation was given to the phenomena. According to Koizumi (1993), the adjacency requirement can be reduced to the split VP hypothesis. In Koizumi (1993), AgrO, which is assumed to be an Accusative Case assigner, is placed between two Vs. The analysis shown in this thesis will make a similar prediction to Koizumi (1993). (See Chapter 5 for Koizumi's (1993) analysis on Exceptional Case Marking Construction in

English.)

To sum up, in this section I applied our Case theory to the sentences which has a transitive verb as its predicate, and explained the (un)grammaticality of the sentences. The ungrammaticality which was explained by the previous Case Filter and the previous θ-criterion can be explained by our new theory.

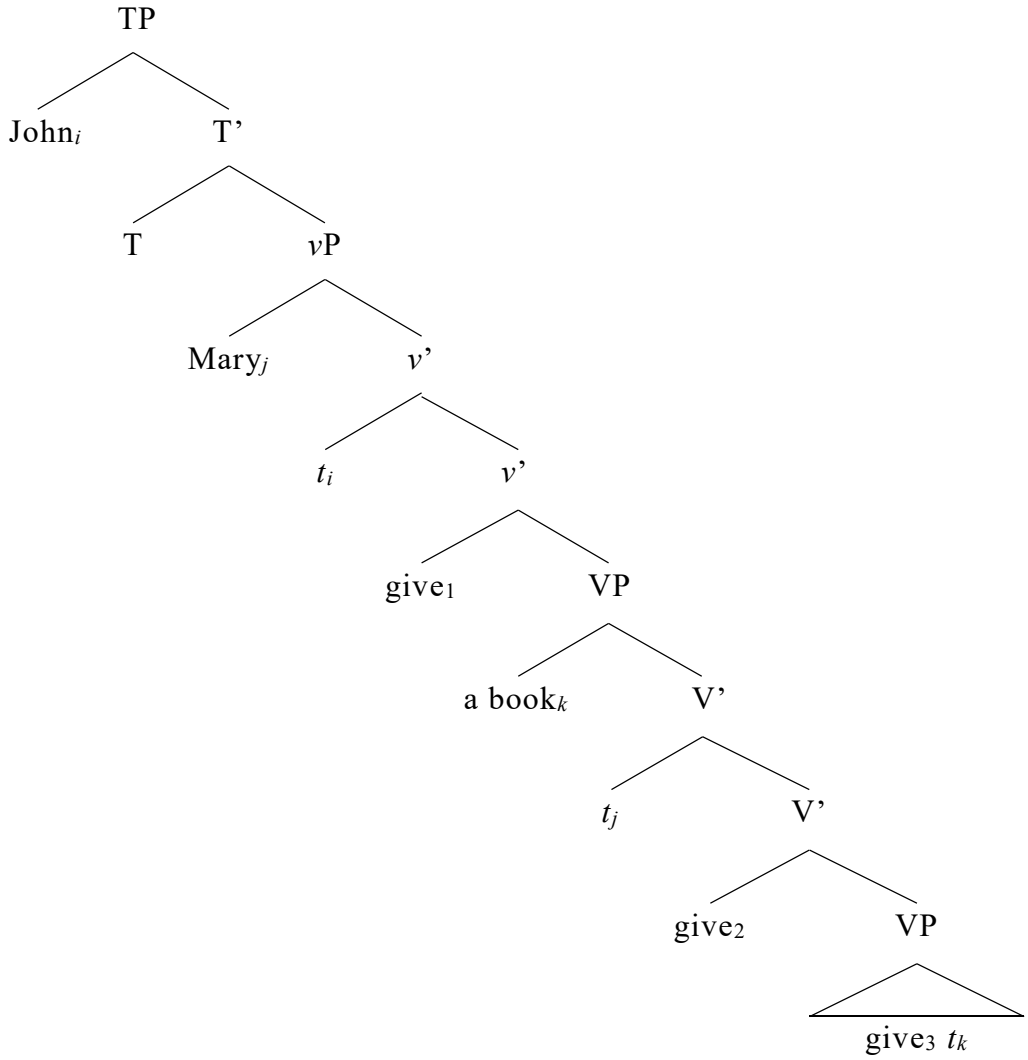
2. Ditransitive Verbs

In this section, I will consider ditransitive verbs in English, taking the following sentences as examples.

(43) John gave Mary a book.

The sentences shown in (43) include ditransitive verbs. Both sentences include the verb *give*. The structure of the sentence shown in (43) and Cases in the sentence is as follows.

(44)



(45) Cases of *John* in (44)

a. f_D: Merge *give*$_1$ → *give*, external argument

b. f_M: Move to [Spec, *T*] → morphological relation with *T*

(46) Cases of *Mary* in (44)

a. f_D: Merge *give*$_2$ → *give*, internal argument

b. f_M: Move to [Spec, *give*$_1$] → morphological relation with *give*$_1$

(47) Cases of *a book* in (44)

a. f_D: Merge $give_3$ → *give*, internal argument

b. f_M: Move to [Spec, $give_2$] → morphological relation with $give_2$

According to the structure shown in (44), each Case of *John*, *Mary*, and *a book* in (43) is as shown in (45), (46) and (47). As shown in (45a), since the nominal phrase *John* is Merged to $give_1$, the D-Case of *John* has [Merge $give_1$] as its argument, and gives us back a value [*give*, external argument]. The movement of *John* to [Spec, *T*] is in the domain of M-Case, the M-Case of *John* has [Move to [Spec, *T*]] as its argument, and gives us back the value [morphological relation with *T*]. As shown in (46), the D-Case of *Mary* has [Merge $give_2$] as its argument, and gives us back the value [*give*, internal argument], and the M-Case of *Mary* has [Move to [Spec, $give_1$]] as its argument, and gives us back the value [morphological relation with $give_1$]. As shown in (47), the D-Case of *a book* has [Merge $give_3$] as its argument, and gives us back a value [*give,* second-internal argument][32], and the M-Case of a book has [Move to [Spec, $give_2$]], and gives us back a value [morphological relation with $give_2$].

Since three necessary thematic interpretation which is required by the predicate *give* is in the LF-representation, the derivation in (44) meets the condition in (16). In the derivation in (44), there are three nominal phrases which requires a morpho-phonological interpretation, and each M-Case has an argument and gives us back a morphological relation which shows us the morpho-phonological interpretation of the nominal phrase as its value. Therefore, the PF-representation of (44) has all and the only necessary morpho-phonological interpretation, and the condition shown in (15) is met by

the derivation in (44).

It should be noted that the alternation between double object construction and dative construction can be captured by changing the order of the verbal heads *give*$_2$ and *give*$_3$. Dative alternation, which has been studied by many scholars such as Green (1974), Barss and Lasnik (1986) and Larson (1988), is caused by the alternation of the verbal head. Since I could not concerned with the dative Case in this thesis, the precise analysis will be left for our future research.

3. Intransitive Verbs

In this section, I will consider intransitive verbs in English, taking the following sentences as examples.

(48) a. John ran.
b. A man arrived
c. *John ran Mary.

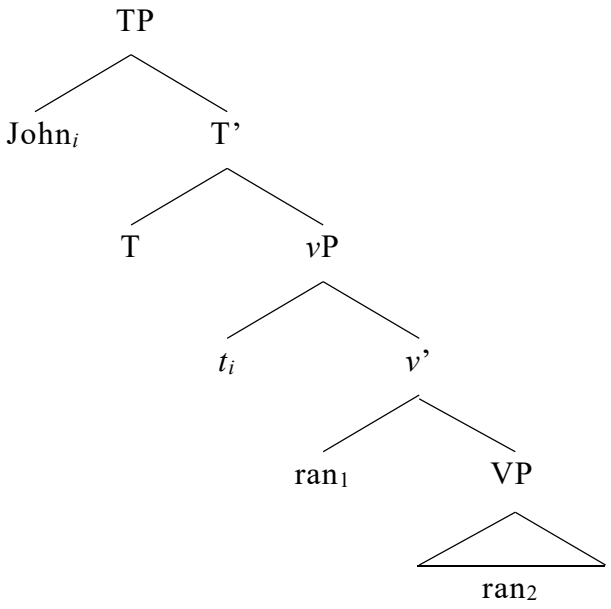
The sentences shown in (48) include intransitive verbs. To be more precise, the verb in (48a) is an unergative verb, and the verb in (48b) is an unaccusative verb. As a piece of evidence of the classification of the one place predicate, let us see the following sentences.

(49) a. A little boy ran in the yard. (Levin 1993: 89)
b. *There ran a little boy in the yard. (Levin 1993: 90)
c. A ship appeared on the horizon.
d. There appeared a ship on the horizon. (Levin 1993: 89)

As shown in (49), there are two types of verbs: one cannot be used in the *there*-construction, and the other can. The former is called unergative verbs, exemplified by (49a, b), and the latter is called unaccusative verbs, exemplified by (49c, d).

Now, let us analyze the sentences shown in (48). In (48a), there is one nominal phrase: *John*. The structure of the sentence and Cases of *John* is as follows.

(50) Structure of (48a)



(51) Cases of *John* in (50)

a. $\mathcal{f}_D$: Merge *ran*$_1$ → *ran*, external argument

b. $\mathcal{f}_M$: Move to [Spec, *T*] → morphological relation with *T*

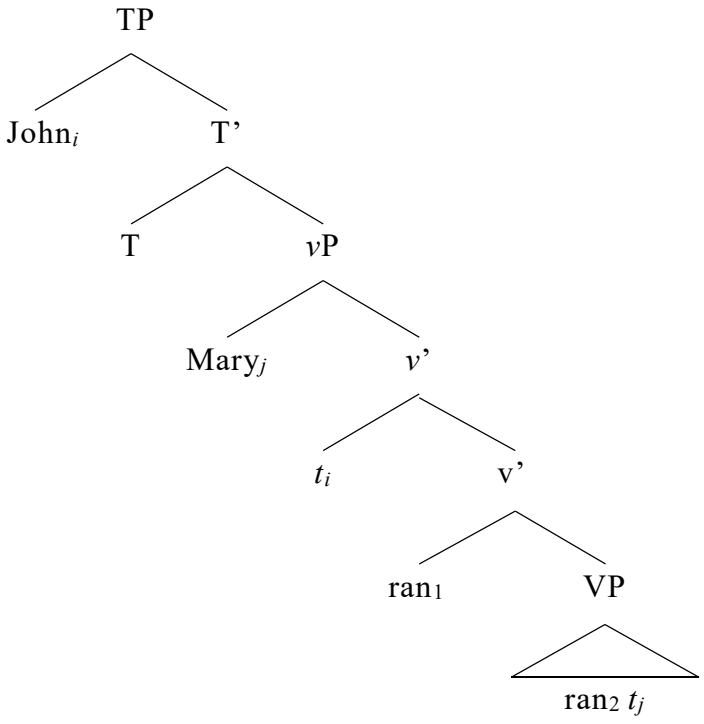
According to the structure shown in (50), each types of Case of *John* will be as shown in (51). As shown in (51a), the D-Case of *John* has [Merge *run*$_1$] as its argument, and gives us back the value which shows us that *John* is an external argument of *ran*. Since the predicate *ran* needs only one external argument,

the LF-representation of the sentence includes all the necessary thematic interpretation, and the condition in (16) is met.

As shown in (51b), the M-Case of *John* has [Move to [Spec, *T*]] as an argument, and gives us back [morphological relation with *T*]. There is no other nominal phrase which requires the morpho-phonological interpretation in the derivation, so the PF-representation of the sentence includes all the necessary morpho-phonological interpretation, and the condition in (15) is met. Since the two conditions on the representations are met, the derivation converges and the sentence is grammatical.

Now, let us turn to the ungrammaticality of the sentence in (48c). The structure of the sentence is as follows, and the Cases of the nominal phrases in the sentence are as follows.

(52) Structure of (48c)



(53) Cases of *John*

a. f_D: Merge ran_1 → *ran*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(54) Cases of *Mary*

a. f_D: Merge ran_2 → *ran*, internal argument

b. f_M: no eligible argument → no defined value

According to the structure in (52), the Cases of *John* and *Mary* will be as shown in (53) and (54). As shown in (52), the nominal phrase *John* is Merged to the verbal head ran_1, and the nominal phrase *Mary* is Merged to the verbal head ran_2. As shown in (53a), the D-Case of *John* has [Merge ran_1] as an argument, and gives us back a value [*ran*, external argument] as its range. As shown in (54a), the D-Case of *Mary* has [Merge ran_2] as an argument, and gives us back a value [*ran*, internal argument]. Since the predicate *ran* has only external argument, and not internal argument, the LF-representation of the structure has the superfluous thematic interpretation. Therefore, the LF-representation of the sentence fails to meet the condition in (16).

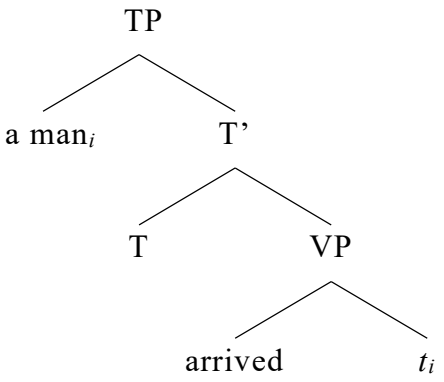
Now, let us turn to the PF-representation of the sentence. As shown in (53b), the M-Case of *John* has [Move to [Spec, *T*]] as its argument, and gives us back [morphological relation with *T*] as its value. As shown in (54b), the M-Case of *Mary* has [Move to [Spec, ran_1]] as its argument, and gives us back [morphological relation with ran1] as its value. Since the M-Cases of the two nominal phrases which require to have a morpho-phonological interpretation succeed to have an argument, each morpho-phonological interpretation of the nominal phrase is defined properly. Therefore, the PF-representation of the

sentence meets the condition in (15).

Though the condition in (15) is met by the PF-representation of the sentence, the condition in (16) is not met by its LF-representation, the derivation does not converge because the condition in (14) is not met.

Now, let us turn to unaccusative verbs. In (48b), there is one nominal phrase *a man*. The structure of the sentence and Cases of *a man* is as follows.

(55) Structure of (48b)



(56) Cases of *a man* in (55)

a. f_D: Merge *arrive* → *arrive*, internal argument[33]

b. f_M: Move to [Spec, *T*] → morphological relation with *T*

According to the structure in (55), each Case of *a man* will be as shown in (56). As shown in (55), *a man* firstly merge the verb *arrive*. After the *T* merges the VP, *a man* moves to the Spec of TP, and leaves trace at the base generated position. As shown in (56a), the D-Case of *a man* has [Merge *arrive*] as its argument, and gives us back a value [*arrive*, internal argument] as its range. Since the predicate *arrive* has only one internal argument, the derivation needs only one thematic interpretation. Therefore, the LF-representation of the

sentence has all and the only necessary thematic interpretation, and meets the condition in (16).

As shown in (56b), the M-Case of *a man* has [Move to [Spec, *T*]], and gives us back a value [morphological relation with *T*]. Since there are no other nominal phrase which needs the morpho-phonological interpretation in the sentence, the PF-representation of the sentence has all the necessary morpho-phonological interpretation, and meets the condition in (15). Since the two conditions are both met, the condition in (14) is met and the derivation converges, so the sentence is grammatical.

As shown in (49), the sentence whose predicate is an unaccusative verb can appear in another construction: *there*-construction. To analyze *there*-construction, it is necessary for us to clarify the property of expletive *there*. In the next chapter, I will focus on expletives, including *there*.

Chapter 4
Case and Expletives

1. Introduction

In Generative Grammar, one of the issues which have been studied by many scholars is the properties of expletives. The followings are examples of English sentence which includes expletives.

(57) Expletives in English

a. There is a man in the garden.

b. It is raining.

As shown in (57), there are two expletives in English: *there* and *it*. In the following sections, I will focus on the expletive *there* and its associate. In the fourth section, I will show the difference between *there* and *it* and consider the possibility of accounting the difference by using our new Case theory. In the fifth section, the language variation on expletives will be shown, and I will try to give an explanation to the variation.

2. Properties of *there* and Internal Expletive Hypothesis

In this section, as a starting point of this chapter, I will focus on the English expletive *there*.

In this thesis, I propose that the expletive *there* has only a D-Case. The reason is that *there* does not induce agreement on the verbs. This can be shown

by the following sentences.

(58) a. There is a man in the garden.

b. There are three men in the garden.

As shown in (58), though the subject positions of two sentences are occupied by the expletive *there*, the morphological realization of the verb is different. The verb in the sentence in (58a) shows the singular form, and the verb in the sentence in (58b) shows the plural form. As argued in the previous Chapter, I (tentatively) propose in this thesis that M-Case is related to the verbal agreement with the subject. Adopting the proposal, the fact shown in (58) leads us to the proposal that the expletive *there* does not have an M-Case.[34]

Now, let us turn to D-Case of the expletive *there*. To show the assumption precisely, let us consider the logical representation of the sentence in (58a). The logical representation adopted commonly is as follows.

(59) Logical Representation of (58a) [35]

∃x. a man (x) ∧ in the garden (x)

As shown in (59), the sentence has the existential quantifier. There are two predicates: *a man* and *in the garden*. The argument of the predicates is a bound variable *x*, and *x* is bounded by the existential quantifier.

Let us consider how the logical representation in (59) is derived. In this thesis, I will assume that *there* is an inducer of the existential quantifier. To be more precise, following Milsark (1974), I will adopt the following as a semantics of the expletive *there*.

(60) Semantics of expletive *there*

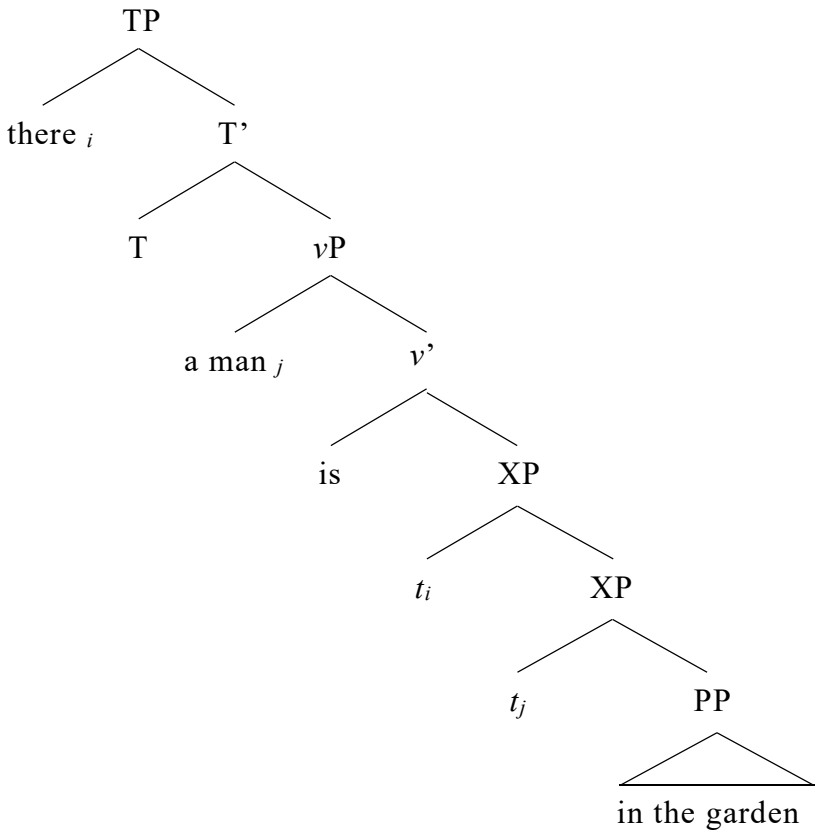
$[\![\text{there}]\!] = \lambda f \in D_{<e, t>}. \exists x. f(x)$

As shown in (60), I will in this thesis adopt that the expletive *there* is not vacuous, and induces the existential quantifier. This is proposed by Milsark (1974), and adopted by Kamp (1981), Heim (1982), McNally (1998), and Zucchi (1995) among many others.

Since we adopt that the existential reading is induced by the expletive *there*, we need to treat indefinites in the same way with Kamp-Heim.

It should be noted that in order for the sentence in (58a) to have the logical representation shown in (59) adopting the system of Case proposed in the previous chapter, *there* needs to be merged with the predicate in the sentence, and move to [Spec, *T*]. Since the two predicates, namely *a man* and *in the garden*, has a bound variable as its argument, the bound variable needs to have a D-Case. The D-Case needs to have the syntactic position as an argument which enables the Case to give us back the value as an argument of the predicates. Therefore, in this thesis, I will assume the following structure for (58a).

(61) Structure of (58a) [36]



(62) Case of *there* in (61)

$\mathfrak{f}_D$: Merge *XP* → *XP*, external argument

To clarify the structure of (58a), we need to add two assumptions. The first assumption is that the expletive *there* is externally merged to the XP, which is a phrase which consists of two predicates: a nominal phrase *a man* and a prepositional phrase *in the garden*. Following Ishino (2012), I will adopt that the expletive *there* is merged to the predicative phrase in this thesis. The argument of Ishino (2012) will be mentioned later.

The second assumption is that the two predicates in XP is calculated by using the Predicate Modification. Predicate Modification is a composition principle adopted by Heim and Kratzer (1998), which is defined as follows.

(63) Predicate Modification (Heim and Kratzer 1998; 65)

If α is a branching node, {β, γ} is the set of α's daughters, and ⟦β⟧ and ⟦γ⟧ are both in $D_{<e, t>}$, then

⟦α⟧ = λx∈ D_e. ⟦β⟧ (x) = ⟦γ⟧ (x) = 1

As shown in (63), Predicate Modification can be applied to a branching node which has two one-place predicates. Since the two predicates in the sentence (58a) are both one-place predicates, the rule can be applied to the node XP in (61). Applying the rule, the whole XP can be regarded as a one-place predicate, and as a result, [Merge XP] can be an argument of D-Case.

Keeping these assumptions in mind, let us go back to (61). As shown in (61), in this thesis, I assume the expletive *there* is merged to [Spec, *XP*]. The operation will be the domain of D-Case, and therefore the expletive *there* can be interpreted as an argument of the predicate. Since the predicate XP is one-place predicate, the value of D-Case of the expletive *there* saturates the requirement of the predicate, and the condition in (16) is met.

It should be noted that the expletive *there* is merged to XP in order to be interpreted as an argument of the predicate XP. If the expletive *there* is merged to *T*, the LF-representation of the sentence fails to have the necessary thematic interpretation, namely the argument of XP. Therefore, the condition in (16) is failed to be met and the derivation will crash, causing the ungrammaticality of the sentence.

Now, let us turn to the PF-representation of the sentence. Since the expletive *there* does not require to have a morpho-phonological interpretation, the expletive *there* does not have a value of M-Case. Therefore, the

PF-representation does not need to have a value of the M-Case of the expletive *there*.

It should be noted that the overt movement of the expletive *there* is caused by the requirement to check the EPP feature of the head *T*. The expletive *there* cannot move to the specifier of the head which does not have an EPP feature because such movement does not have any motivation. Since the expletive *there* does not have M-Case, the movement of the expletive *there* does not cause a superfluous morpho-phonological interpretation. [37] Therefore, the PF-representation has all and the only necessary morpho-phonological interpretation, and the condition in (15) is met.

In order to analyze the sentence in (58a) in the abovementioned way, it is crucial for the expletive *there* to be an inducer of the existential reading. In the literature, there are two ways to analyze the existential construction. It is fairly generally agreed that the sentence in (58a) has the logical representation in (59). The origin of the existential reading is arguable, and there are two major analyses.

The first analysis is to treat the expletive *there* to be vacuous, and the existential reading comes from the determiner *a*. To be more precise, the determiner *a* is treated as an equivalent to *some*. The semantics of *some* is as follows.

(64) Semantics of *some* (cf. Heim and Kratzer 1998: 146)

$$[\![\text{some}]\!] = \lambda f \in D_{<e,t>}. \lambda g \in D_{<e,t>}. \exists x. f(x) = 1 \wedge g(x) = 1$$

As shown in (64), some is treated as an inducer of the existential quantifier. It is common to adopt that some determiners such as *every* and *some* are

quantificational. If we adopt the determiner *a* has the same semantics with the determiner *some*, the expletive *there* will be vacuous.

The second analysis is to treat the expletive *there* to be an inducer of the existential quantifier. This analysis is taken by Kamp (1981) and Heim (1982). In this thesis, I will briefly sketch Heim's (1982) analysis on the expletive *there*. According to Heim (1982), indefinites gain quantificational force by being indexed with the inserted existential quantifiers. In Heim's (1982) theory, a rule called Existential Closure is adopted, and the rule covers all of the cases of the existential reading of indefinites. Since the existential reading of indefinites is derived by the inserted existential quantifiers, not by the denotation of the indefinite determiner *a*/*an*, it is natural for us to assume that the expletive *there* induces a quantifier.

There is a piece of evidence which shows that the expletive *there* is not semantically vacuous and induces the existential readings, which was proposed by Milsark (1974). The argumentation of Milsark (1974) is on the Definiteness Effect. Milsark (1974) proposes that *there*-sentences are quantificational, and the sentences itself introduce the existential quantification over NP denotations. This proposal leads us to capture the Definiteness Effect in *there*-sentences. The Definiteness Effect is a phenomenon in which definite NPs cannot be used in certain types of constructions such as *there*-sentences. The phenomenon can be exemplified by the following sentences.

(65) a. There appeared a ship on the horizon.

b. *There appeared the ship on the horizon. (Levin 1993: 89)

As shown in (65), an indefinite NP *a ship* can be an associate of the expletive

there while a definite NP *the ship* cannot be an associate of the expletive *there*. The phenomenon has been studied by many scholars, such as Milsark (1974, 1977), Barwise and Cooper (1981), Keenan (1987), Higginbotham (1987), and Zucchi (1995).

According to Milsark (1977), the determiners like *every*, *all*, *the* are quantificational, and the two quantifications on the same NP cause the ungrammaticality. To put it differently, since the expletive *there* is an inducer of the existential reading, the quantificational determiners cannot be used in *there*-sentences. The ungrammaticality is caused by the double quantification on one NP. In order to maintain this analysis, we need to adopt that the expletive *there* is an inducer of the existential quantifier. Since the double quantification, which is induced by the expletive *there* and the post-verbal NP, is a cause of the ungrammaticality, the existential quantifier cannot be induced by the post-verbal NPs.

Now, let us turn to the base generate position of the expletive *there*. There is a piece of evidence which shows that the expletive *there* is merged to [Spec, Pred(X)P] rather than inserted into a higher position such as [Spec, TP], which was shown by Ishino (2012). Ishino (2012) argues that since all predicative phrase has EPP feature, the expletive *there* is merged externally to [Spec, *v*P] by making use of Takano's (1995) proposal on LF reconstruction and Proper Binding Condition. According to Ishino (2012), Takano's (1995) analysis can be utilized as a diagnosis as follows.

(66) Takano's (1995) diagnosis (Ishino 2012: 61)

*[…t_i…R_j…]$_k$ […[α_j…[βi…t_k…]]]

As shown in (66), if the domain includes the trace of A-moved β and an R-expression co-referential with α, it turns out to be ill-formed if the domain structurally moves over both of β and α. Using the diagnosis, Ishino (2012) shows that the (un)grammaticality of the following sentences can be explained by adopting the existence of the trace of an expletive at [PredP(*v*P), Spec].

(67) a. How likely to John does there seem to be a man in that garden?

b. *[How likely to John$_k$]$_l$ does he$_k$ think there seems t_l to be a man in that garden? (Ishino 2012: 62,63)

As shown in (67), although the predicative phrase can be preposed, the sentence in (67b) is ungrammatical. The ungrammaticality can be explained with Takano's (1995) diagnosis if we assume the structure of (64b) is as follows.

(68) Structure of (67b) (Ishino 2012: 63)

*[how t_j likely to John$_k$] does he$_k$ think there$_j$ seems t_j to be a man in that garden?

As shown above, the structure is equivalent to the schema of Takano's (1995) diagnosis if we assume that the moved predicative phrase includes the trace of the expletive, and the expletive *there* is externally merged to the Spec of PredP.

To sum up, in this section I showed the basic properties of the expletive *there* and sketched some assumptions which are adopted in this thesis.

As shown above, the expletive *there* has a D-Case, but not any M-Case. Because *there* does not cause the morphological agreement on the verbs, it is natural for us to assume that *there* does not have an M-Case. Since *there* is an inducer of the existential quantifier, *there* needs to have an argument of its

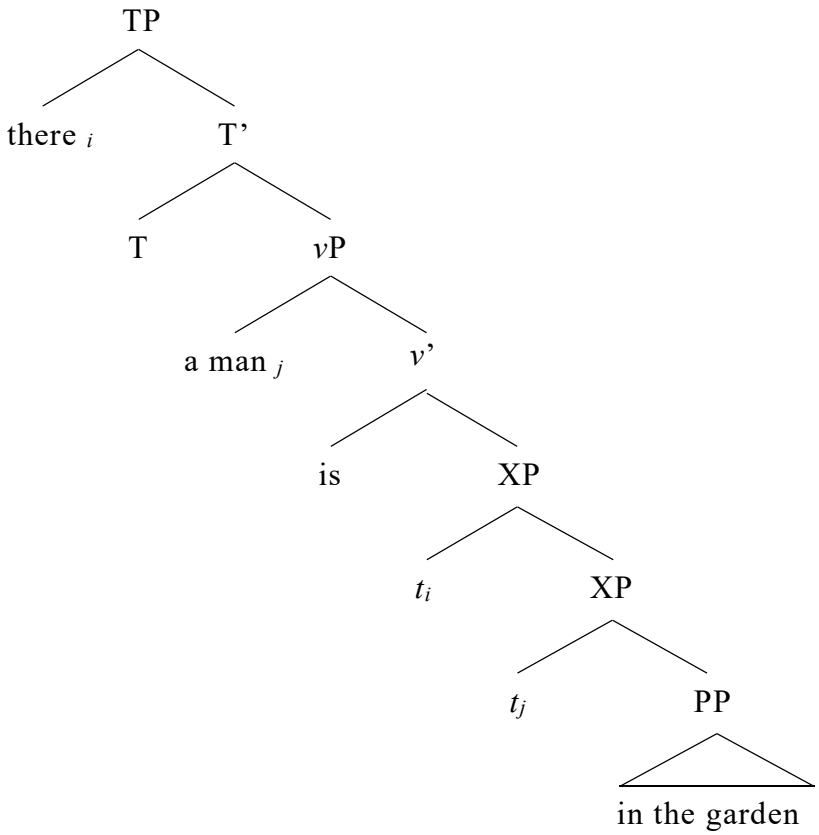
D-Case, and therefore it is externally merged to [Spec, *v*P]. As one evidence of the structure I assume here, I briefly sketched Ishino's (2012) analysis on the preposed predicative phrase.

In the next section, I will argue on the properties of associate, and Definiteness Effect.

3. Associate of the expletive *there* and Definiteness Effect

In this section, I will focus on the associate of *there*. In the previous section, I adopt that the structure of (58a), an example of the *there*-construction, is as (61), repeated here as (69).

(69) Structure of (58a)



As shown in (69), in this thesis I adopt that *a man*, the associate of *there*, is firstly combined to the prepositional phrase and constructs an XP, whose head will not be clarified in this thesis.

I assume in this thesis that the operation does not cause the predicate-argument relation between the nominal phrase *a man* and the prepositional phrase *in the garden*, so it should not be the case that the D-Case of the nominal phrase *a man* has [Merge PP] as an argument.[38] Therefore, in this thesis, I will tentatively adopt that the combining operation is not Merge, but Adjoin.[39] Adopting a new operation in order to refer to the syntactic structure, the Cases of *a man* will be as follows.

(70) Cases of *a man* in (69)

a. f_D: Adjoin *PP* → *PP*, modification

b. f_M: Move to [Spec, *is*] → morphological relation with *is*

As shown in (70a), the D-Case of *a man* has [Adjoin PP] as its argument, and gives us back [PP, modification] as its value. Since the argument of the D-Case is different from Merge, the value of the D-Case is different from [PP, external argument]. Since the nominal phrase does not have a predicate-argument relation with the prepositional phrase, the value of the D-Case should not be [PP, external argument].

As stated previously in the endnote, the term "modification" means that the two syntactic objects are calculated by using the rule Predicate Modification.[40] The D-Case clarifies the thematic interpretation[41] of the nominal phrase, and the LF-representation includes the thematic interpretation of the nominal phrase. It enables the C-I system to interpret the sentence in a

desirable way.

It should be noted that the value “modification” will not be restricted by the condition in (16). As I mentioned above, whether the value “argument” is necessary or not can be defined by the predicate in the derivation. Therefore, the value “argument” will be restricted by the condition shown in (16). On the other hand, the value “modification” cannot be defined whether it is necessary or not by the predicate in the derivation: concerning the value “modification”, we cannot decide the value is necessary or superfluous. Therefore, the condition in (16) will not apply to the value “modification”.

Now, let us turn to the M-Case of the associate. As shown in (70b), the M-Case of *a man* has [Move to [Spec, *is*]] as its argument, and gives us back [morphological relation with *is*] as its value. Since the only nominal phrase which needs to have a morpho-phonological interpretation has a value of M-Case, the PF-representation has all and the only necessary morpho-phonological interpretation, and the condition in (15) is met.

Since the associate of the expletive *there* has a morphological relation with the verb is and the expletive *there* does not have M-Case, the fact that not the expletive *there* but the associate of the expletive *there* induces the agreement on the verbal head can be captured naturally. Since we adopt that the morpho-phonological interpretation is related to the verbal agreement, the morphological relation between the associate and the verb *is*.

A piece of evidence which shows that the associate has M-Case: the adjacency requirement can be seen in the *there*-construction. This can be shown by the following sentences.

(71) a. *I believe there to be not a solution.

b. *I believe there to be usually a solution.

c. I believe there not to be a solution.

d. ?I believe there usually to be a solution. (Lasnik 1992: 386)

As shown in (71), the adverbial phrase *usually* or *not* cannot occur between the verb *be* and the associate of *there*. Adopting that the adjacency effect is caused by the movement for M-Case, the associate should have M-Case. Since there are so many points to be argued, I will not consider the actual structure of the sentences shown in (71) in this thesis.

Now, let us turn to a property of the associate which has been studied by many scholars: Definiteness Effect. In the literature, Definiteness Effect (or Definiteness Restriction) has been studied both syntactically and semantically. The Definiteness Effect in English can be exemplified by the followings.

(72) a. A man is in the garden.

b. There is a man in the garden.

c. The man is in the garden.

d. *There is the man in the garden. (Belletti 1988:2)

As shown in (72a) and (72c), the preverbal subject can be either definite or indefinite. On the other hand, as shown in (72b) and (72d), the subject which follows the verb can only be indefinite. Adopting our Case system, there is a possibility to analyze the phenomenon by assuming that only indefinites can have [Adjoin PP] as its argument and gives us back [PP, modification] as its value. Namely, the difference between weak NPs and strong NPs are the

compatibility with the value [PP, modification] of D-Case. In order to build up the argument, we need to apply the theory to some other phenomena which are said to be an example of Definiteness Effect, which cannot be completed in this thesis.

4. Difference between *there* and *it*

In this section, I will focus on the difference of expletives in English. As shown in the first part of this chapter, there are two expletives in English: *there* and *it*. These expletives show some different properties. In this section, I will try to give an account for the difference by using our new Case theory and the properties of *there* shown in the previous section. There are two differences between *there* and *it*. One difference is that *there* does not induce the agreement on the verb, but *it* does. This can be shown by the following sentences.

(73) a. There exists no solution to this problem.
b. There exist no good solutions to this problem.
c. *There exists no good solutions to this problem.

(McCloskey 1991:563)

(74) a. It seems that Bush will be reelected.
b. *It seem equally likely at this point that the president will be reelected and that he will be impeached.
c. It seems equally likely at this point that the president will be reelected and that he will be impeached. (McCloskey 1991: 565)

As shown in (73), in the sentence with the expletive *there*, the expletive does not show the agreement with the verb. Instead, the associate of *there* which is in the post-verbal position induces the agreement. If the associate of *there* is singular, the verb will have the singular form, and if the associate of *there* is plural, the verb will have the plural form. (73a) and (73b) shows this point. As shown in (73c), if the associate of *there* and the form of the verb is not consistent, the sentence will be ungrammatical.

On the other hand, the sentence with the expletive *it*, the expletive shows the agreement with the verb. Even if the post-verbal nominal phrase is plural, the verb agrees with the expletive, which is in the Spec of TP. As shown in (74a) and (74c), the number of the post-verbal clause does not affect to the form of the verb. Even there are two post-verbal clauses, the verb has the singular form. As shown in (74b), if the verb has the plural form, the sentence will be ungrammatical.

The difference shown in (74) can be explained by adopting that the expletive *it* has the M-Case, and the expletive *there* does not.[42] As mentioned above, I adopt that the M-Case is related to the agreement on verbs. Therefore, assuming that the expletive *it* has M-Case, we can capture the fact that the expletive *it* shows the agreement on the verb.

On the other hand, as mentioned in the previous section, I adopt that the expletive *there* does not have M-Case. Therefore, it is natural for the expletive *there* not to have the morphological agreement on verbs.

The other difference between the expletives is that the expletive *there* cannot occur in the Spec of a small clause, but the expletive *it* can. This point can be shown by the following sentences.

(75) a. *I consider there likely to be further violence.

b. I consider it likely that Nixon will commit murder.

c. I consider it likely that there will be further violence.

(Arimoto 1989: 114)

As shown in (75a), the expletive *there* cannot occur in the subject position of the small clause. On the other hand, as shown in (75b), the expletive *it* can occur in the subject position of the small clause.

Interestingly however, if the clause has an infinitival *to*, both expletives can occur in the subject position of the clause. This point can be shown in the following sentences.

(76) a. I consider [it to be time to leave]

b. I consider [there to be no good reason not to]

(Radford 1988: 320)

As shown in (76), if a clause has an infinitival *to*, both sentences, which have the expletive *there* in a subject position of an embedded clause and which have the expletive *it* in a subject position of an embedded clause, will be grammatical. Therefore, it seems not be the case that the meaning of the clause is not the reason of the prohibition of the use of the expletive *there*.[43] The precise analysis of this difference will be left for our future research.

4. Linguistic Variation in the Use of Expletives

In this section, I will focus on the language variation in the use of

expletives. In Bobaljik and Jonas (1996), the variation on transitive expletive constructions is shown. Transitive expletive construction is a sentence which has subjects remain in the verbal phrases. The following sentences show that in some languages, including English, transitive expletive construction is not allowed.

(77)a. English

*There has someone eaten an apple.

b. Faroese II

*Tað bygdu nakrir íslendingar hús í Havn
there built some Icelanders houses in Torshavn
('Some Icelanders built houses in Torshavn.')

c. Danish

*Der har nogen spist et æble.
there has someone eaten an apple
('Someone has eaten an apple.')

d. Swedish

*Det har någon ätit ett äpple.
there has someone eaten an apple
('Someone has eaten an apple.)

e. Africans

*Daar het baie mense baie bier gedrink.

there have many people much beer drunk

(‘Many people have drunk a lot of beer.’)

(Bobaljik and Jonas 1996: 208)

As shown in (77), if the subject is not moved out of the verbal phrase, the sentence is ungrammatical in some languages. The sentence in (77a) is English, the sentence in (77b) is one dialect of Faroese, which is called Faroese II in Bobaljik and Jonas (1996), the sentence in (77c) is Danish, the sentence in (77d) is Swedish, and the sentence in (77e) is Africans.

On the other hand, the following sentences show that there are some language which accept transitive expletive construction.

(78)a. Icelandic

Það hafa margir jólasveinar borðað búðing.

there have many Christmas.trolls eaten pudding

(‘Many Christmas trolls have eaten pudding.’)

b. German

Es essen einige Mäuse Käse in der Küche.

there eat some mice cheese in the kitchen

(‘There are some mice eating cheese in the kitchen.’)

c. Dutch

Er hat iemand een appel gegeten.

there has someone an apple eaten

('Someone has eaten an apple.')

d. Yiddish

Es hot imitser gegesn an epl.

there has someone eaten an apple

('Someone has eaten an apple.')

e. Frisian

Der lêst ien in boek.

there reads somebody a book

('There is someone reading a book.')

f. Faroese I

Tað bygdu nakrir íslendingar hús í Havn.

there built some Icelanders houses in Torshavn

('Some Icelanders built houses in Torshavn.')

(Bobaljik and Jonas 1996: 209)

As shown in (78), there are some languages which allows transitive expletive construction. The sentence shown in (78a) is Icelandic, the sentence shown in (78b) is German, the sentence shown in (78c) is Dutch, the sentence shown in (78d) is Yiddish, the sentence shown in (78e) is Frisian, and the sentence shown in (75f) is another dialect of Faroese, which is called Faroese I in Bobaljik and Jonas (1996).

Adopting our new Case theory, there is a possibility for us to explain the linguistic variation by referring to the Cases of expletives and the nominal phrases in the sentences. Since we adopt the existence of two Cases in the human language, there can be four types of nominal phrases.

(79) a. Type A: [+M-Case[44], +D-Case[45]]

b. Type B: [+M-Case, -D-Case]

c. Type C: [-M-Case, +D-Case]

d. Type D: [-M-Case, -D-Case]

As shown in (79), there are four possible types of nominal phrases. Nominal phrases of which the type shown in (79a), called type A, have both M-Case and D-Case. Since the nominal phrases have M-Case, they need to have a morpho-phonological interpretation. Since they have D-Case, it is possible for them to have a thematic interpretation.

If a nominal phrase is type B, which have only M-Case, the nominal phrase needs to have a morpho-phonological interpretation. Since the nominal phrase does not have D-Case, it cannot have a thematic interpretation.

If a nominal phrase is type C, which have only D-Case, the nominal phrase cannot have a morpho-phonological interpretation.[46] Since the nominal phrase can have a thematic interpretation, it is possible for it to have a thematic interpretation.

If a nominal phrase is type D, which have neither M-Case nor D-Case, the nominal phrase cannot have neither a morpho-phonological interpretation nor a thematic interpretation.

It is possible for us to make some predictions on the behavior of the

nominal phrases by adopting the system of Cases which I mentioned in the previous chapter.

The first prediction is that a nominal phrase which has M-Case requires an overt movement. Since we adopt that only the overt movement to the "Case position"[47] can be an argument of M-Case, the nominal phrase with M-Case needs to undergo such operation. If the nominal phrase with M-Case does not move overtly to the "Case positon", the derivation will crash because the PF-representation of the derivation fails to have all the necessary morpho-phonological interpretation, and the condition in (15) is not met.

Note that the requirement of the overt movement is related to the adjacency effect in this thesis. As mentioned in the previous chapter, following Koizumi (1993), I will assume that the overt movement for Case causes the adjacency effect.

The second prediction is that a nominal phrase which does not have M-Case cannot have a morphological agreement with the verb in the sentence. Since we adopt that the morpho-phonological interpretation, which is a value of M-Case, is related with the agreement on the verb. If a nominal phrase does not have M-Case, the nominal phrase cannot have a morpho-phonological interpretation, and therefore the nominal phrase cannot have a morphological agreement.

It should be noted that having M-Case does not necessarily mean that the nominal phrase has a morphological agreement on verbs. Since the morpho-phonological interpretation is not a morphological agreement itself, there can be a nominal phrase with M-Case which does not have a morphological agreement on verbs. Having M-Case is a necessary condition

for a nominal phrase to have a morphological agreement with verbs, but not a sufficient condition for a nominal phrase to have a morphological agreement with verbs.[48]

Therefore, we can say that the nominal phrases which belong to type C and type D cannot have the morphological agreement on verbs. On the other hand, we cannot say that if a nominal phrase have the morphological agreement on verbs, the nominal phrase belongs to type C or type D. The morphological agreement on the verb is not necessarily realized in the PF-representation.

The third prediction is that case adjacency effect should be shown if the nominal phrase shows an agreement on verbs. I adopt that the Case adjacency effect is caused by the movement for M-Case, and that the M-Case is necessary for the nominal phrase to have a morphological agreement on verbs. Therefore, the nominal phrase which has an agreement on verbs should show a Case adjacency effect. Since the nominal phrase with M-Case does not necessarily have a morphological agreement, the nominal phrase without an agreement may show the Case adjacency effect.

The fourth prediction is that only a nominal phrase without D-Case can be Merged after a nominal phrase with D-Case is Merged to a head which requires an argument. If two nominal phrases with D-Case is Merged to a same head, the value of two D-Cases will be the same. That causes a superfluous thematic interpretation, in the LF-representation, and the derivation will crash because the condition in (16) is not met.[49]

There may be much more predictions, which I cannot cover all in this thesis. The data shown in (77) and (78) may be explained by one of such predictions. The analysis will be left for the future research.

Chapter 5
Passivization and Case

1. Introduction

Passivization is one of the phenomena which are observed universally. According to Watanabe (1996), passivization can be described as follows.

(80) Descriptive Characterization of Passive (Watanabe 1996: 64)

a. The external argument of the verb is realized in the form of an oblique phrase, or not realized at all

b. One of the verb's internal arguments (or an argument of the embedded clause) gets whatever Case is available in its context, instead of Accusative Case.

c. The verb is marked by special morphology.

As shown in (80b), in a passive sentence, the internal argument fails to get Accusative Case and instead gets some other kind of Case. Because of this characteristic, there are quite a few studies which focus on the relation between passivization and (Accusative) Case. Following this tendency, this Chapter will focus on passivization, and describe the passive sentence by using our new Case theory. The next section will deal with passivization in English. In the third section, the difference between English and Italian will be analyzed.

2. Mechanism of Passivization in English

This section will sketch the mechanism of passivization on the basis of our new Case theory, focusing on passive sentences in English. The passivization is an operation which is caused by a passive morpheme. In this thesis, a passive morpheme in English will be treated as follows.

(81) Properties of Passive Morpheme (PASS) in English:

a. PASS is a syntactic object which demotes M-Case.[50] (If PASS is attached to the verbal head whose Spec can be an argument of the M-Case, the Spec of the verb will be excluded from a domain of M-Case.)

b. PASS causes a morphological change of the attached verb, and the verb will be a past participle.

c. PASS is attached to the verbal head before the verb is introduced into the derivation.

As shown in (81a), PASS is a morpheme which demotes M-Case. It should be noted that since M-Case is not an entity, it cannot be "demoted". What I mention here is that the Spec of a verbal head with PASS cannot be an argument of the M-Case. Since there is no M-Case as an entity in the derivation or in the lexicon, there is no actual demotion. I use the term "demote" for the understandability. The demotion of M-Case causes the descriptive property which was shown in (80b). Since Accusative Case corresponds to M-Case, namely [f_M: Move to [Spec, v] → [morphological relation with v]], the demotion of the M-Case of the verbal head causes the unavailability of

Accusative Case. In other words, [Move to [Spec, *v*-PASS]] cannot be an argument of the M-Case. Since PASS demotes the M-Case, PASS can be attached only to the verbal head whose Spec is in the domain of M-Case.

It should be noted that PASS demotes only M-Case, and not D-Case. Since the meaning of the sentence does not change, it is natural for us to assume that PASS has nothing to do with D-Case. If the D-Case of the verbal head is demoted, the predicate does not have an external argument, and the LF-representation of the passive sentence will be completely different from the LF-representation of the active sentence. Namely, while the active sentence has an external argument of the predicate, the passive sentence does not have an external argument of the predicate. If so, the meaning of the active sentence and passive sentence will differ by means of its subject: the active sentence has a semantic subject, and the passive sentence does not even if the passive sentence includes *by*-phrase. There seems to be no such difference between the active sentence and the passive sentence, the D-Case of the predicate should not be demoted by PASS.

Now let us turn to the rest of the properties shown in (81). As shown in (81b), the morpheme PASS is necessary for the verb to be passivized morphologically. The property shown in (80c) is a result of the attachment of PASS. As shown in (81c), the attachment of PASS occur before the verb is introduced into the derivation: the attachment is lexical rather than syntactic.

Then, what derives the property shown in (80a)? In this thesis, I assume that there is a null argument which only has D-Case in English. Since English seems not to have an agreement with a null argument on the verb, I assume that a null argument in English does not have M-Case.

As a result of using the null argument as an external argument of the predicate, the lack of an overt logical subject is permitted.[51] If there is no null argument, the LF-representation fails to meet the condition shown in (16). Since the requirement of a thematic interpretation of the predicate is not changed, the predicate requires two thematic interpretations in the LF-representation. Therefore, if there is no null argument in the derivation, the derivation fails to have all the necessary thematic interpretation in its LF-representation and the derivation will crash.

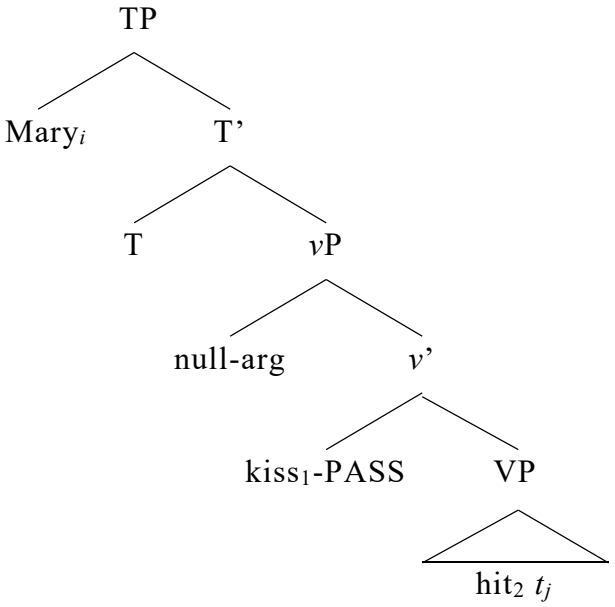
In what follows, I will analyze the passive sentence in English in detail. The passive sentence in English can be exemplified by the following sentence.

(82) Passivization in English

Mary was kissed.

In (82), the external argument is not phonetically realized at all in the sentence. The internal argument of *kiss* is in the subject position of the sentence, and it gains Nominative Case instead of Accusative Case. The verb *kiss* is marked with the special morphology, which is a past participle marker. These three points show that the sentence in (82) has all the characteristics shown in (80). According to the properties of PASS shown in (76), the structure of (82) and Cases of the nominal phrases will be as follows.

(83) Structure of (82)



(84) Cases of *Mary* in (83)

a. f_D: Merge *kiss*$_2$ → *kiss*, internal argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(85) Case of *null argument* in (83)

f_D: Merge *kiss*$_1$ → *kiss*, external argument

As shown in (83), *Mary* is introduced into the derivation as a Complement of *kiss*$_2$ in the first place. As a result of the operation Merge, the D-Case of *Mary* has [Merge *kiss*$_2$] as its argument, and gives us back a value as an internal argument of the verb *kiss*. This point is shown in (84a).

Next, *kiss*$_1$ which has attached PASS in the lexicon is introduced into the derivation by the operation Merge.[52] As an argument of *kiss*$_1$, *null argument* is introduced into the derivation by the operation Merge, and D-Case of *null argument* has [Merge *kiss*$_1$] as an argument, and gives us back a value which shows that the *null-argument* is an external argument of the verb *kiss*. As a

result, the LF-representation of the sentence has two thematic interpretation, namely the external argument of *kiss* and the internal argument of *kiss*. Since the verb *kiss* requires two arguments and there is no other predicate in the derivation, the condition shown in (16) is met.

Now, let us turn to M-Case and the PF-representation. After the introduction of *T* into the derivation, the operation Move is applied to *Mary*, and M-Case of *Mary* takes [Move to [Spec, *T*]] as an argument. Since *null argument* does not have M-Case, it does not require an overt movement. Since the nominal phrase *Mary*, which requires a morpho-phonological interpretation, has an argument of its M-Case and the M-Case gives us back a morpho-phonological interpretation as its value, we can say that all and the only necessary morpho-phonological interpretation is in the PF-representation of the sentence. Therefore, in the derivation shown in (83), the condition in (15) is met. Since the both condition (15) and (16) is met by the structure shown in (83), the condition in (14) is met and the derivation converges.

In the next section, I will focus on the property of null argument, and show that by adopting the variation of the property between languages, we can analyze the anti-passive.

3. Linguistic Variation of Null Argument

In the previous section, I adopt that there is a null argument in English, and the external argument of the predicate is the null argument in the passive sentence. The use of a null argument in the passive sentence enables us to capture the fact that the external argument is not realized overtly. Let us

consider what will happen if the null argument is introduced as an internal argument into the derivation. This will lead us to give an explanation on the linguistic variation on the acceptance of anti-passive.

Anti-passive is a construction whose internal argument is syntactically demoted. The phenomenon can be exemplified by the following sentences.

(86) a. Active in Dyirbal

Yabu-Ø ŋuma-ŋgu bura-n.

mother-$_{ABS}$ father-$_{ERG}$ see-$_{PAST}$

'Father saw mother,'

b. Anti-Passive in Dyirbal

ŋuma-Ø buɽal-ŋa-ɲu (yabu-gu).

father-$_{ABS}$ see-$_{ANT}$-$_{PAST}$ mother $_{DAT}$ (Palmer 1994: 18)

(87)a. Active in Chukchee

ətləg-e keyŋ-ən penrə-nen.

father-$_{ERG}$ bear-$_{ABS}$ attack-$_{3SG.3SG.AOR}$

'Father attacked the bear.'

b. Anti-Passive in Cukchee

ətləg-en penrə-tko-gʔe (keyŋ-etə).

father-$_{ABS}$ attack-$_{ANT}$-3$_{SG.\ AOR}$ bear-$_{DAT}$ (Palmer 1994: 177)[53]

(88)a. Active in Greenlandic Inuit

Juuna-p Anna-Ø kunip-p-a-a.

Junna-ERG Anna-ABS kiss-IND-TRANS-3SG.3SG

'Juuna kissed Anna.'

b. Anti-Passive in Greenlandic Inuit

Juuna-Ø (Anna-mik) kunis-si-v-u-q.

Juuna-ABS Anna-INST kiss-ANT-IND-INTR-3SG

(Bittener and Hale 1996: 36)

(89)a. Active in Chamorro

Un-patek i ga'lagu

2SG(ERG)-kick the dog

'You kicked the dog.'

b. Anti-Passive in Chamorro

Mam-atek hao gi ga'lagu.

ANT-kick 2SG(ABS) LOC dog

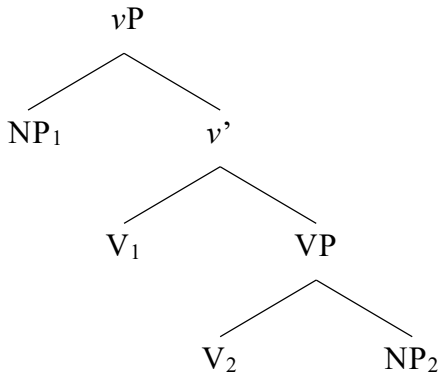
'You kicked at the dog.' (Cooreman 1988: 578)

As shown in (86), (87), (88) and (89), in some languages such as Dyirbal, Chukchee, West Greenlandic Inuit, and Chamorro, anti-passive is permitted.

Since the languages shown above are all ergative languages, the external argument of the transitive verb is marked as ergative, and the internal argument of the transitive verb is marked as absolutive in active sentences. In anti-passive sentences, the external argument of the transitive verb is marked as absolutive. There are only one overt nominal phrase in the anti-passive

sentence. Since I have not built up the analysis for the ergative Case system, I will focus only on the thematic relation in this thesis.[54] The active sentences have the following structure, and the D-Cases in the derivation will be as follows.

(90) Active[55]



(91) a. D-Case of NP_1 in (90)

$\mathfrak{f}_D$: Merge $V_1 \rightarrow V$, internal argument

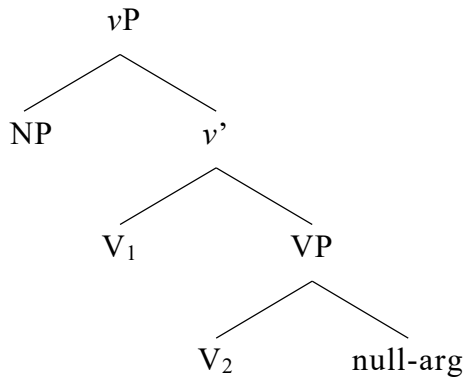
b. D-Case of NP_2 in (90)

$\mathfrak{f}_D$: Merge $V_2 \rightarrow V$, internal argument

As shown in (90), active transitive sentences have the two nominal phrases. The D-Case of the nominal phrase which is Merged to V_1 has a value as an external argument of the verb as shown in (91a). The D-Case of the nominal phrase which is Merged to V_2 has a value as an internal argument of the verb as shown in (91b). Since the predicate in transitive sentences requires two thematic interpretation in the LF-representation, the LF-representation of (90) succeeds to have all and the only necessary interpretation, the condition in (16) is met.

Now, let us turn to anti-passive sentences. Likewise passive sentences, the demotion of the internal argument in anti-passive sentences will be explained by using the null-argument as an internal argument of the predicate. The anti-passive sentence has the following structure, and the D-Cases in the derivation will be as follows.

(92) Anti-Passive[56]



(93) a. D-Case of NP in (92)

$\int_D$: Merge $V_1 \rightarrow V$, external argument

b. D-Case of null-arg in (92)

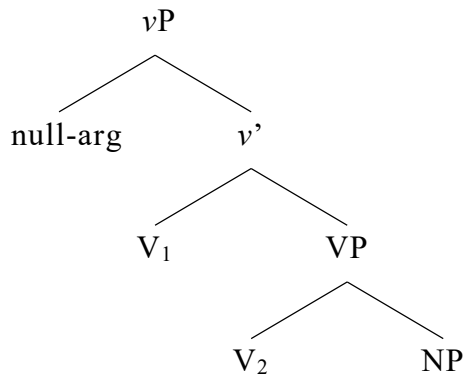
$\int_D$: Merge $V_2 \rightarrow V$, internal argument

As shown in (92), anti-passive sentences have one overt nominal phrase and one null argument. The D-Case of the overt nominal phrase has [Merge V_1] as its argument, and gives us back [V, external argument] as its value. The D-Case of the null-argument has [Merge V_2] as its argument, and give us back [V, internal argument] as its value. Since there are two necessary thematic interpretation in the LF-representation, the condition in (16) is met.

According to our analysis, the difference between passive sentences and

anti-passive sentences is the position of a null-argument. Passive sentences have the following structure, and the D-Cases in the derivation will be as follows.

(94) Passive



(95) a. D-Case of *null-arg* in (94)

$\int_D$: Merge $V_1 \rightarrow V$, external argument

b. D-Case of NP_1 in (94)

$\int_D$: Merge $V_2 \rightarrow V$, internal argument

As shown in (94), a passive sentence has one overt nominal phrase and one null argument. The D-Case of the overt nominal phrase has [Merge V_2] as its argument, and gives us back [V, internal argument] as its value. The D-Case of the null-argument has [Merge V_1] as its argument, and give us back [V, external argument] as its value. Since there are two necessary thematic interpretation in the LF-representation, the condition in (16) is met.

If the language has a null-argument which takes only [Merge v] as its argument, the language permits passive alone, and not anti-passive. If the language has a null argument which allows [Merge V] alone as its argument, the language permits anti-passive alone, and not passive. If the language has a

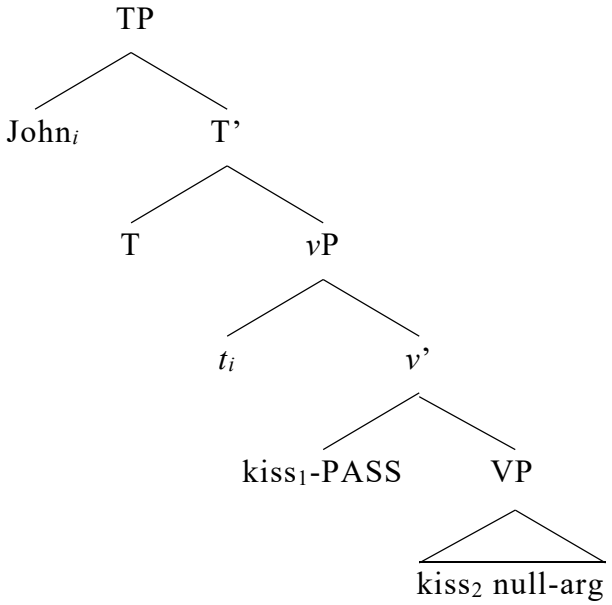
null-argument which can take both [Merge *v*] and [Merge *V*] as its argument, the language permits both passive and anti-passive. The parametric difference of passivization can be deduced to the property of the null-argument.

In order to make our argumentation clearer, let us consider the following sentence in English, which permits passive alone.

(96) *John$_i$ was t_i kissed null-arg.

As shown in (96), the sentence which has an overt external argument and a null internal argument is ungrammatical in English. The nominal phrase *John* cannot be interpreted as an external argument of the verb *kiss*. If there is a sentence "John was kissed," than *John* in the sentence will be interpreted as an internal argument of the verb. Adopting the assumption that in English a null argument cannot be used as an internal argument of the verb, we can explain the reason of the ungrammaticality. It is difficult for us to explain the ungrammaticality without the assumption. Let us consider the sentence in (96) in detail. The structure and the Cases of the nominal phrases in (96) is as follows.

(97) Structure of (96)



(98) Cases of *John* in (97)

a. $\mathcal{f}_D$: Merge $kiss_1$ → *kiss*, external argument

b. $\mathcal{f}_M$: Move to [Spec, T] → morphological relation with *T*

(99) Case of *null argument* in (97)

$\mathcal{f}_D$: no eligible argument → undefined

According to (97), the structure of the sentence in (96) seems to have no problem. As shown in (98b), the M-Case of *John* has [Move to [Spec, *T*]] as its argument, and give us back [morphological relation with *T*] as its value. Since there is no other nominal phrase which requires a morpho-phonological interpretation in the derivation, the condition in (15) is met by the PF-representation of the sentence.

Now let us turn to the LF-representation of the sentence. As shown in (98a), the D-Case of *John* has [Merge $kiss_1$] as an argument and gives us back [*kiss*, external argument] as its value. Since the predicate *kiss* requires two

arguments, the LF-representation of the sentence will meet the condition in (15) and the derivation will converge, if the D-Case of the null argument has [*kiss*, internal argument] as its value as a result of taking [Merge $kiss_2$] as its argument.

However, as shown in (99), the D-Case of null-argument does not have an eligible argument. This is because [Merge $kiss_2$] is not an eligible argument for the D-Case of the null argument. Therefore, the LF-representation of the sentence fails to have all the necessary thematic interpretation, and as a result of the shortage, the derivation crashes.

In order to provide the abovementioned explanation to the phenomena, the assumption that the null argument in English can only be used as an external argument is crucial. This may sounds rather ad hoc, but if we adopt this assumption, we can easily account for the language which accepts anti-passive: the parametric difference is caused by the difference of the null-argument.

To sum up, in English, Accusative Case is not available for the internal argument of the verb in passive sentences because *PASS* absorbs the ability of *v* to be an argument of M-Case. The M-Case of the internal argument takes [Move to [Spec, *T*]] as a domain, and since the null argument does not require the domain of M-Case, condition in (15) is met. Because the verb has a null argument as its external argument, the sentence does not have an overt external argument.

If a null argument is able to be used as an internal argument of the sentence, the sentence will be an anti-passive sentence. The (in)possibility of (anti-)passive sentences can be explained by assuming that the D-Case of the null argument has a restriction on its domain, and the linguistic variation can be

deduced to the difference in property of the null argument in the language.

4. Difference on Passivization between Languages

In section 2 of this Chapter, I showed the basic analysis of the passive sentence in English. Considering the mechanism of the passive sentence, a difference between English, Italian, and Norwegian may be able to be accounted for. The difference can be exemplified by the following sentences.

(99) *There has been put a book on the table. (Lasnik 1992: 397)

(100) È stato messo un libro sui tavoto
has been put a book on the table (Belletti 1988: 9)

(101) Det vart sett ein mann.
'There was seen a man.' (Åfarli 1989: 101)

As shown in (99), it is impossible in English for the internal argument to remain in the post-verbal position in the passive sentence. On the other hand, as shown in (100) and (101), the internal argument can remain in the post-verbal position in the passive sentence in Italian and Norwegian. In Italian, the subject position of the sentence is occupied by a null expletive, and in Norwegian, the subject position of the sentence is occupied by an overt expletive *det*.

Lasnik (1992) suggests that the difference shown in (99) and (100) comes from the difference in the ability of passive verbs to license partitive Case. According to Belletti (1988), in Italian passive verbs can assign partitive Case,

which causes Definiteness Effect. As shown in the previous Chapter, Definiteness Effect will be related with the lack of D-Case in this thesis. If so, the sentence (100) shows that the nominal phrase *a book* does not have a D-Case. This may enable us to give an explanation to the difference in grammaticality by considering the property of passive morpheme and the null expletive in Italian.

Åfarli (1989) aims to propose a unified analysis of passive construction in Norwegian and English. The target sentences are the followings.

(102) a. A man was seen. (Åfarli 1989: 102)

b. *There was seen a man. (Åfarli 1989: 101)

c. Ein mann vart sett.
'A man was seen.' (Åfarli 1989: 102)

d. Det vart sett ein mann.
'There was seen a man.' (Åfarli 1989: 101)

(103) a. *There was sung.

b. Det vart sunge.
'There was sung.' (Åfarli 1989: 101)

(104) a. *There was snowed.

b. *There was fallen a leaf.

c. *Det vart snødd.
'There was snowed.'

d. *Det vart falle eit blad.
'There was fallen a leaf.' (Åfarli 1989: 101)

There are two common properties between English and Norwegian. The first property is shown in the sentences in (102). As shown in (102a) and (102c), in both English and Norwegian, the transitive verbs can be passivized. The second property is shown in the sentences in (104). As shown in (104), passive formation is not allowed from the verbs which is said not to have external argument.

On the other hand, there are two difference between English and Norwegian. The first point is exemplified by the sentences in (102). As shown in (102b) and (102d), the internal argument cannot be remained in the post verbal position in English, but it can be remained in Norwegian. The second point is exemplified by the sentences in (103). As shown in (103a), the unergative verbs cannot be passivized in English. On the other hand, the unergative verbs can be passivized in Norwegian.

Åfarli (1989) claims that a major difference between Norwegian and English passives can be deduced to the property of passive morpheme in each language: Passive morpheme must receive abstract Case in English, but it need not do so in Norwegian. Our Case theory may give a different explanation to the phenomena. I will leave the concrete explanation to my future research.

Chapter 6
Exceptional Case Marking Construction in English

1. Introduction

In this chapter, I will focus on the ECM construction, which has been studied by many scholars. In the ECM construction, we can find an interesting contrast between arguments, idiom chunks, and expletive *there*, which seems to be difficult to be given a proper explanation with the previous Case theory. The contrast can be exemplified as follows.

(105) a. I've believed John for a long time now to be a liar.
b. *I've believed for a long time now John to be a liar.
c. *I've believed there for a long time now to be no solution to this problem.

(Ura 1993: 276)

d. I've believed for a long time now there to be no solution to this problem.
e. ?I don't want to believe time devoutly to be getting on.
f. *I don't want to believe devoutly time to be getting on.

Each sentence in (105) includes the overt subject of a *to*-infinitives and an adverb which modifies the verb *believe*. As shown in (105), the expletive *there* behaves differently from arguments and idiom chunks. It seems difficult to explain the difference adequately with the previous Case theory. In what follows, I will present some data which characterize the ECM construction, and

review a previous analysis of the data. Then, I will try to show by analyzing the data in which the new proposal enables us to give a unified explanation for the phenomena.

2. Data

In this section, I will show some data of the ECM construction in English which have been analyzed by many scholars. It is generally said that there are two types of verb which selects a *to*-infinitive in its complement. The following sentences include some examples with such verbs.

(106) a. Mary {believed/considered/reported} [John/*PRO to have loved her].

b. Mary {tried/intended/managed/desired} [*John/PRO to go abroad].

(Ura 2001: 340)

The verbs shown in (106a) are called ECM verbs, and the verbs shown in (106b) are called Control verbs. As shown in (106a), ECM verb selects an infinitival clause whose subject is an overt argument, and the sentence is grammatical. If the verb selects an infinitival clause whose subject is a covert argument PRO[57], the sentence becomes ungrammatical. On the contrary, control verb selects an infinitival clause whose subject is a covert argument PRO, as shown in (106b), and the sentence is grammatical. Control verb cannot select an infinitival clause with overt subject, and if it does, the sentence becomes ungrammatical. In this thesis, I will inquire into the details of ECM verbs and not be concerned

with Control verbs.

In the ECM construction, a subject position of the infinitival clause can be occupied with either an argument or an expletive. This fact can be shown as follows.

(107) a. I believe John to have convinced Bill.

(Lasnik and Saito 1991: 324)

b. I believe there to be a man in the garden.

(Lasnik and Saito 1991: 325)

In (107a), *John* is the subject of the infinitival clause in the ECM construction (henceforth ECM subject), and the expletive *there* is the ECM subject in (107b).

In the ECM construction, idiom chunks associated with an embedded clause also can appear in the ECM subject position as shown below.

(108) a. Joan believes the shit to be about to hit the fan.

b. Joan believes the jig to be up.

c. Joan believes little heed to have been paid to my suggestion.

(Postal 1974: 39)

In (108), each infinitival clause contains some idiom chunks, all of which retain idiomatic readings.

There are some sentences which indicate that the ECM subject is moved to the matrix clause, and it does not remain in the embedded clause. The example which contains with Negative Polarity Item (henceforth NPI) can be shown as follows.

(109) a. No one saw anything.

b. *Anyone saw nothing.

c. ?The DA proved [none of the defendants to be guilty] during any of the trials.

d. ?*The DA proved [none of the defendants were guilty] during any of the trials. (Lasnik and Saito 1991: 329)

As shown in (109a) and (109b), the NPI *any* needs to be licensed by c-command. In (109a), *no one* c-commands *any* and *any* is licensed by *no one*. In (109b), *any* is not c-commanded by any licensor, and therefore, the sentence is ungrammatical. Take this into account, the grammaticality of (109c) shows that the ECM subject can c-command VP-adverb which modifies the matrix verb *believe*. On the other hand, the sentence in (109d) is ungrammatical, and this shows that the subject of the finite clause cannot c-command the VP-adverb. From these facts, we can say that unlike the subject of the finite clause the ECM subject moves out from the clause.

There is another phenomenon which indicate the position of the ECM subject. The phenomenon is shown in sentences which contains VP-adverbs. The phenomenon can be exemplified by (105a), (105b), (105e), and (105f), repeated bellow as (110).

(110) a. I've believed John for a long time now to be a liar.

b. *I've believed for a long time now John to be a liar.

(Ura 1993: 276)

c. ?I don't want to believe time devoutly to be getting on.

d *I don't want to believe devoutly time to be getting on.

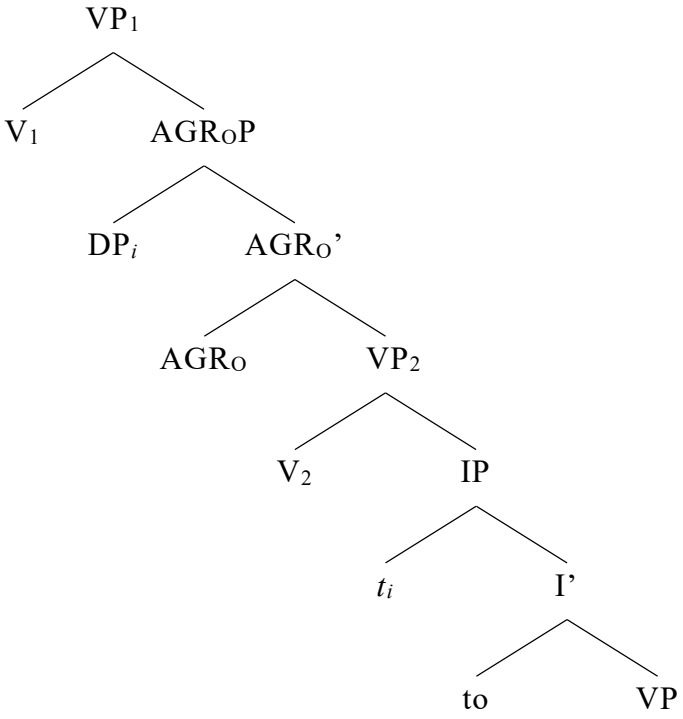
In (110a), the ECM Subject *John* precedes the adverbial phrase *for a long time now,* and the sentence is grammatical. On the other hand, if the ECM Subject follows the adverbial phrase, the sentence becomes ungrammatical as shown in (110b). Since the adverb modifies the matrix verb *believe*, the position of the subject shows that the ECM subject overtly moves out of the infinite clause.

In (110c), the ECM Subject *time* precedes the adverb *devoutly*, which modifies the verb *believe* and in (110d) ECM Subject follows the adverb. (110c) and (110d) show that an idiom chunk behaves in the same way, which suggests that the movement is not caused by the semantic reason.

3. Previous Analysis

To analyze the properties shown above, Koizumi (1993) advanced a new hypothesis, the Split VP Hypothesis. According to Koizumi (1993), since the accusative Case feature of verbs and the NP-feature are strong in English, the ECM Subject raises to the Spec of AGR_OP before Spell-Out, and hence the S-Structure for the ECM Construction can be schematized as follows.

(111) Split VP Hypothesis

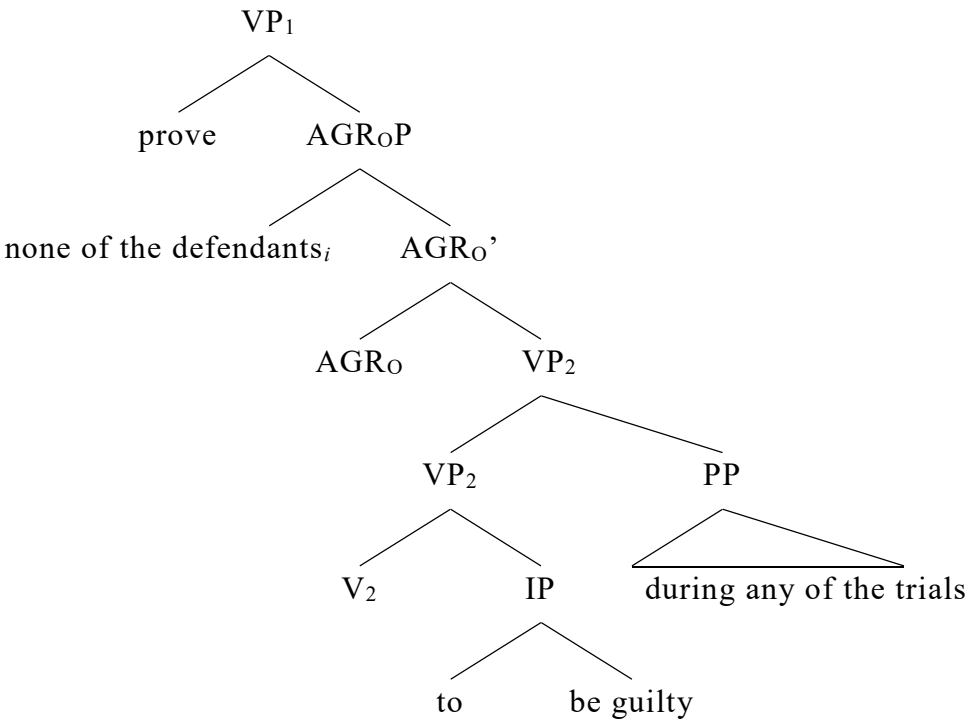


As shown in (111), the subject of an infinitival clause raises to the Spec of AGR_OP and check its Case feature. The structure in (111) enables us to explain the facts shown in the previous subsection.

The characteristics shown in (107) and (108) are compatible with the theory of Koizumi (1993). Koizumi's (1993) theory is only about the Case feature, which has no contribution to the semantic interpretation of the sentences. Therefore, the theory correctly predicts that there is no semantic restriction on the ECM Subject.

The characteristic shown in (109) can be explained by the structure shown in (111). According to Koizumi's (1993) theory, the structure of (109d) can be illustrated as follows.

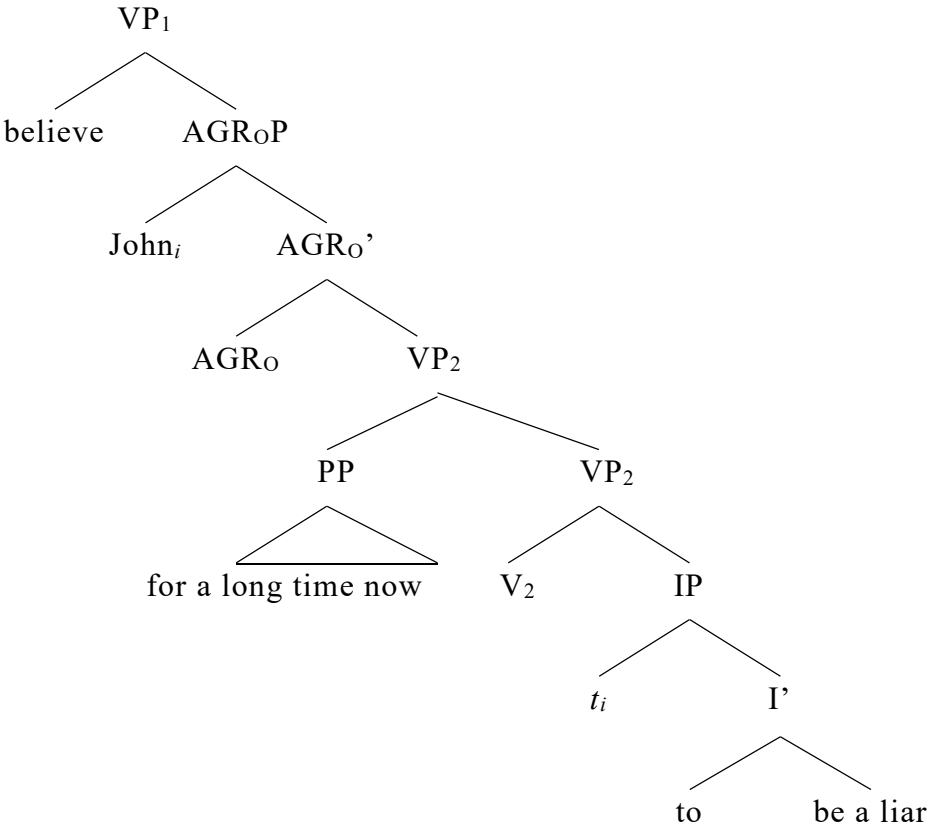
(112) Structure of (109d)



As shown in (112), the modifier adjoins to VP_2 and the ECM Subject is in the Spec of AGR_O; the ECM Subject c-commands the modifier. This structure enables us to explain the grammaticality of (111d).

Also, the characteristic shown in (110) can be captured appropriately in the same way as shown below.

(113) Structure of (110)



As shown in (113), PP adjoins to VP_2, and therefore, the ECM Subject *John* needs to precede the PP in order to make a Spec-head agreement with AGR_O. If the ECM Subject follows the adverb, the subject fails to check its Case feature, and the sentence will become ungrammatical. This enables us to explain the contrast shown in (110). To sum up, Koizumi's (1993) analysis can capture the characteristics of the ECM construction appropriately.

However, if we turn to a sentence with the expletive *there*, Koizumi's (1993) analysis carries a problem. So far, I have shown Koizumi's (1993) analysis which proposes that ECM subjects in English overtly raise to the Spec of Agr_OP to check their Case, and therefore the subject precedes an adverb. Keep this in mind, consider the following sentences, which were shown in (105),

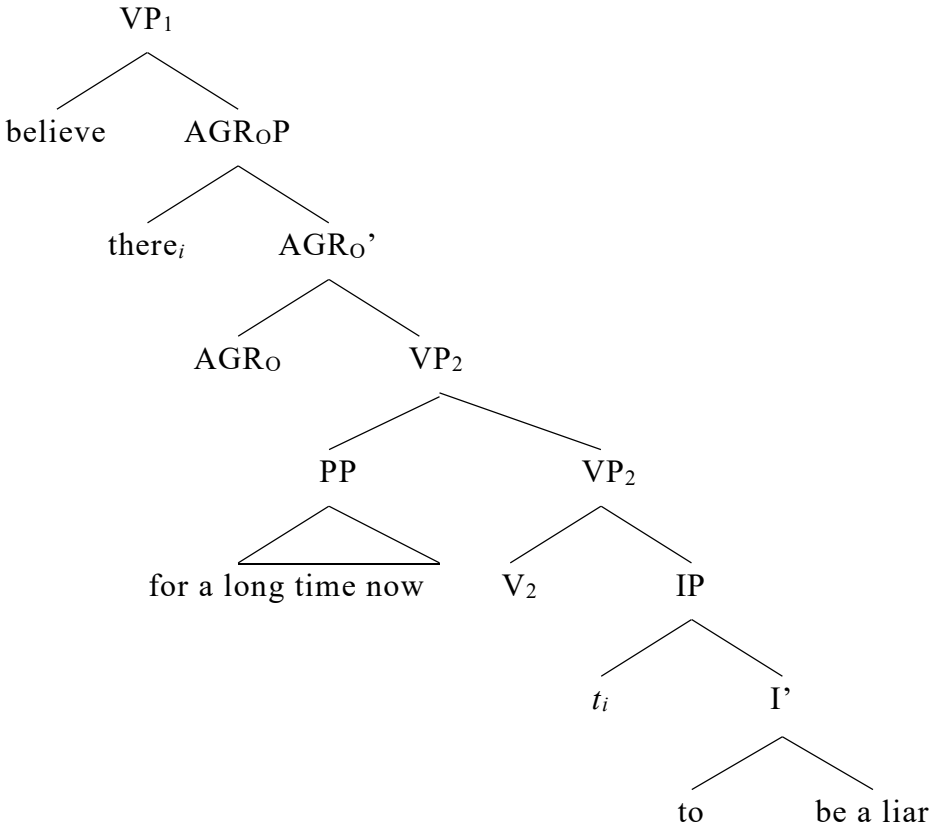
repeated here as (114).

(114) a. *I've believed there for a long time now to be no solution to this problem. (Ura 1993: 276, 277)

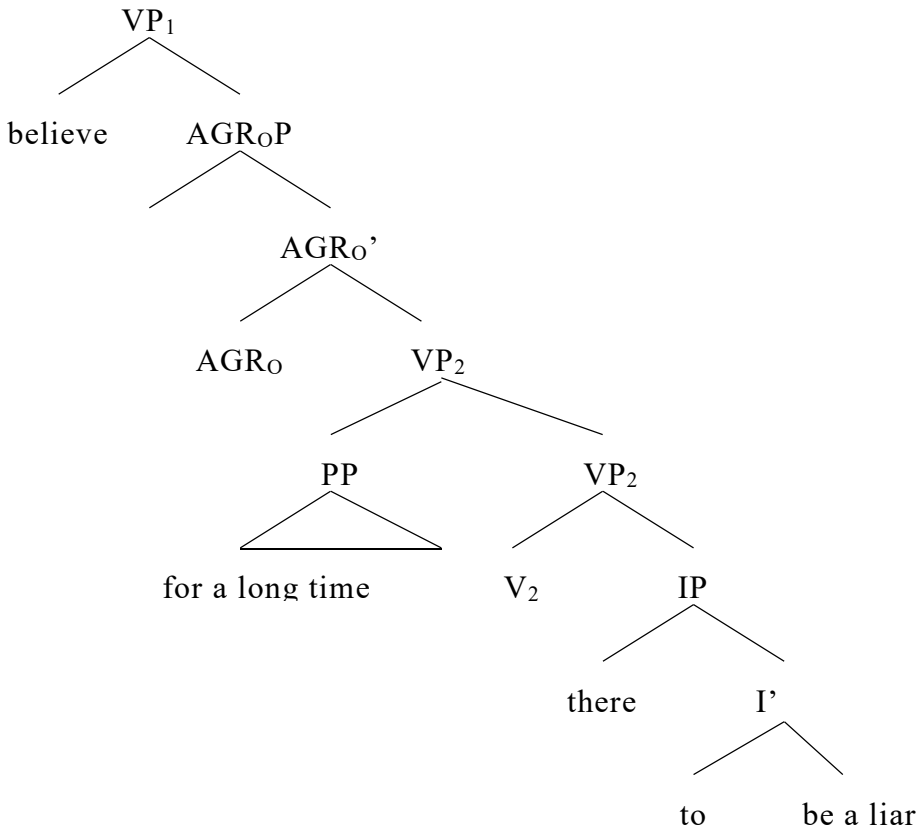
b. I've believed for a long time now there to be no solution to this problem.

The sentence in (114a) shows that *there*, the subject of an infinitival clause, cannot move to the position to which the lexical ECM subject moves. (114b) shows that *there* can appear after the adverbial phrase which adjoins to VP_2, where the argument cannot appear. If we analyze the sentence in (114) by adopting Koizumi's (1993) analysis, the sentences will have the following structure.

(115)a. Structure of (114a)



b. Structure of (114b)



The sentence in (114a), which is ungrammatical, has the structure shown in (115a). Since *there* precedes the adverbial phrase, under the Split VP hypothesis, *there* is in [Spec, Agr$_O$P]. The sentence in (114b), which is grammatical, will have the structure shown in (115b). *There* in (115b), which follows the adverbial phrase, remains in [Spec, IP]. Since [Spec, AgrOP] is a Case position and [Spec, IP] is not, the structures in (115) and their (un)grammaticality shows that *there* cannot receive Case.

There is one way to analyze the phenomena with Koizumi (1993): to assume that the expletive *there* does not have to receive Case, and Case is not available behind an adverb and available in front of the adverb. This will be compatible with Koizumi's (1993) analysis. However, there are some

sentences in which the expletive *there* needs Case. Consider the followings.

(116) a. * It seems [there to be a man here].

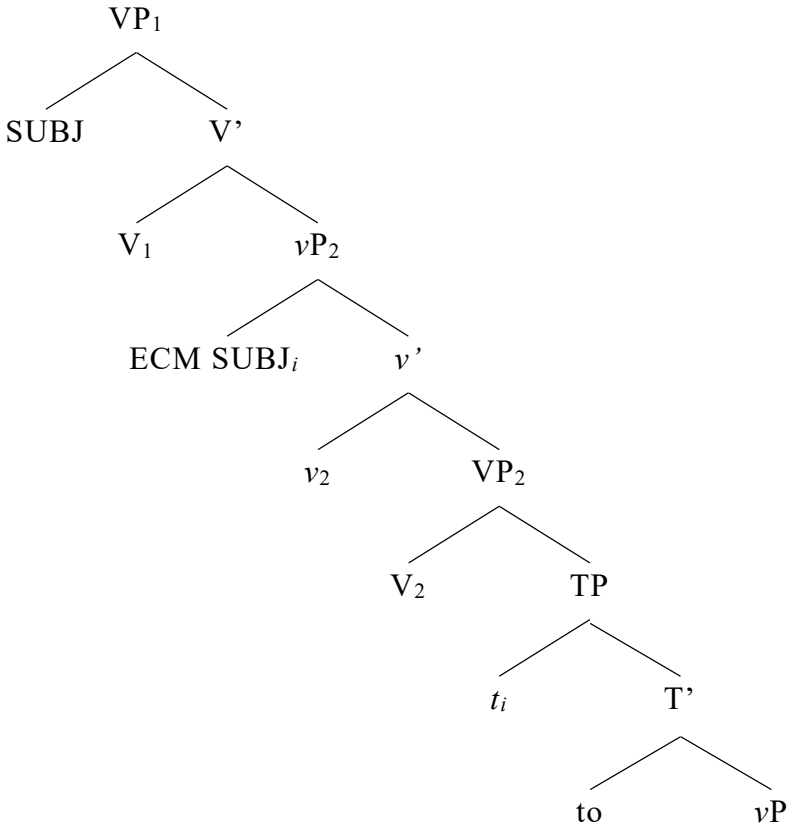
b. * I tried [there to be a man here]. (Lasnik 1992: 382)

The sentences in (116) are both ungrammatical. The ungrammaticality of these sentences is often explained under the assumption that *there* needs to receive Case and both *seem* and *try* cannot assign Case (Lasnik 1992). If we explain the contrast between (110) and (114) by adopting that the expletive *there* does not need Case, we have to give some other explanation to the ungrammaticality of (116). It seems to be difficult to explain the phenomena without any extra conjecture. This is problematic not only to Koizumi (1993), but also to all the studies which assume the expletive *there* has Case feature.

4. New Analysis

In what follows, I will attempt a new analysis of the data under our new Case system. I will assume here that the base structure of the ECM Construction in English can be schematized as follows.

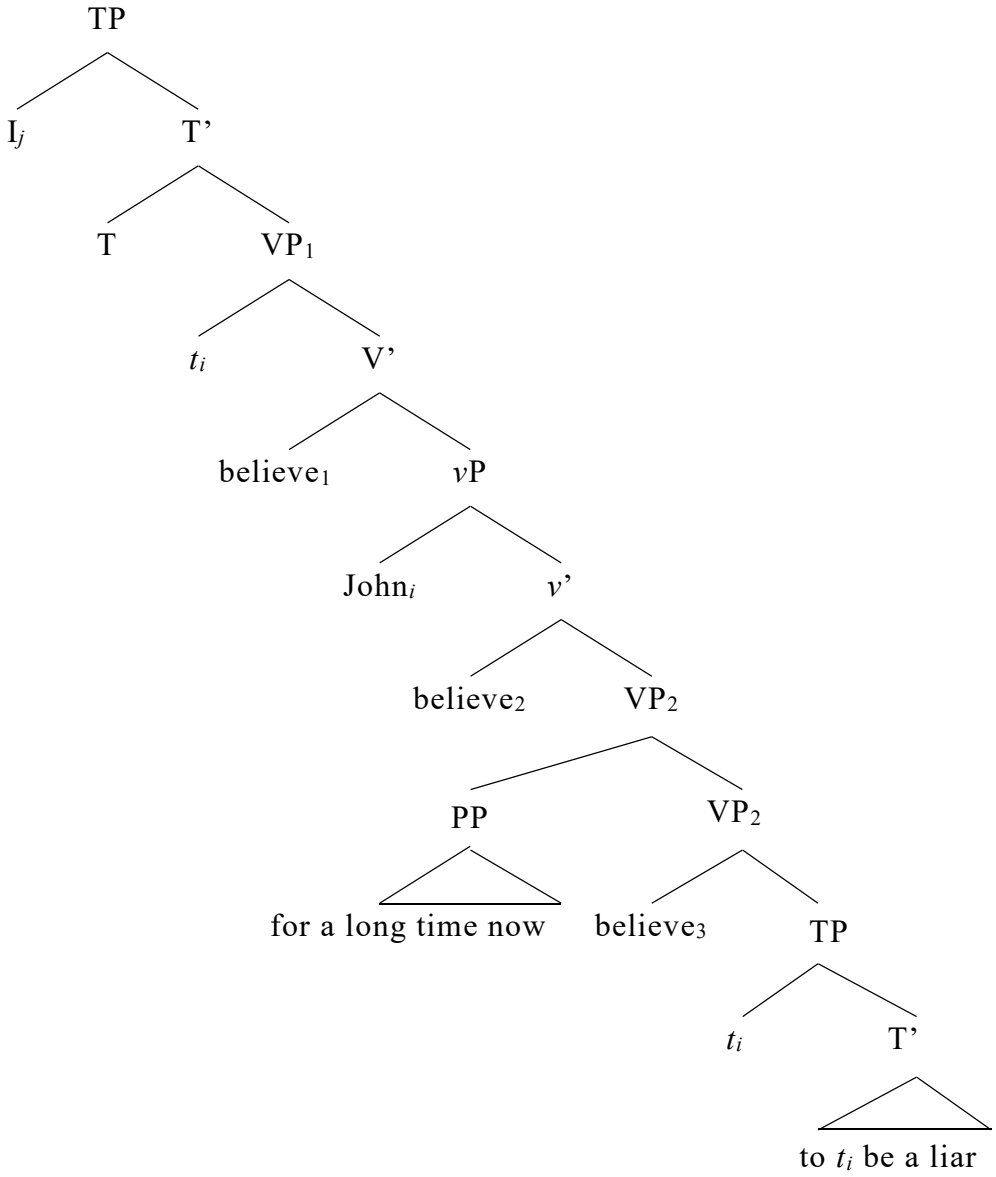
(117) Structure of ECM Construction



In this thesis, I will assume that the ECM verb has the structure as shown in (117).[58] There is three verbal heads in the sentence. Following Koizumi (1993), I will adopt that there is a head whose Spec can be an argument of the M-Case between the verbal heats which has been said to have θ-role.[59] As shown above, after being in [TP, Spec], the ECM Subject will move overtly if it needs to have a morpho-phonological interpretation. In this structure, [vP$_2$, Spec] is the closest position for the M-Case of the ECM Subject to have an argument.

According to (117), the structure of (110a) will be as follows.

(118) Structure of (110a)



As shown in (118), there are two nominal phrases which are arguments of the predicate in the structure: *John* and *I*. The Cases of *John* and *I* in (118) will be as follows.

(119) Cases of *John* in (118)

a. f_D: Merge *be a liar* → *be a liar*, external argument[60]

b. f_M: Move to [Spec, *believe*$_2$] → morphological relation with *believe*$_2$

(120) Cases of *I* in (118)

a. f_D : Merge *believe*$_1$ → *believe*, external argument[61]

b. f_M : Move to [Spec, T] → morphological relation with *T*

As shown in (119a), the D-Case of *John* has [Merge *be a liar*] as its argument, and gives us back [*be a liar*, external argument] as its value. As shown in (120a), the D-Case of I has [Merge *believe*$_1$] as an argument and gives us back [*believe*, external argument] as its value. Since there are two necessary thematic interpretation[62] in the LF-representation, namely the argument of *believe* and the argument of *be a liar*, the condition in (16) is met and the derivation converges.

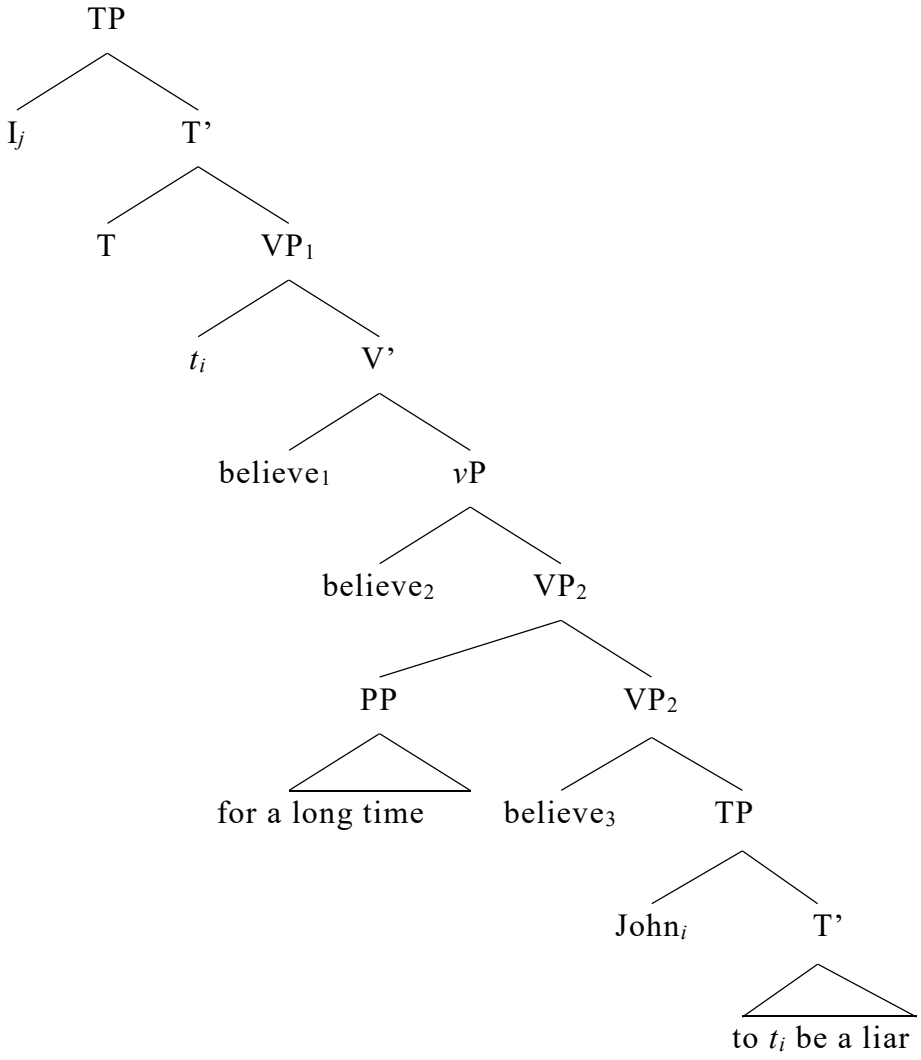
Now, let us turn to the PF-representation. As shown in (119b), M-Case of *John* has [Move to [*believe*$_2$, Spec]] as its argument, and gives us back [morphological relation with *believe*$_2$] as its value. As shown in (120b), M-Case of John has [Move to [Spec, *T*]] as its argument, and gives us back [morphological relation with *T*] as its value. Since the nominal phrases have the morpho-phonological interpretation, the PF-representation saturates the condition in (15).[63]

Since the adverbial *for a long time now* is adjoined to VP_2, *John* need to precede the adverbial in order to have [Move to [*believe*$_2$, Spec]] as its argument. If *John* is in the Spec of *believe*$_2$, the adverbial phrase cannot intervene between

the verb and *John*.

The ungrammaticality of (110b) is caused by the failure of M-Case of *John* to get its argument. The structure of (110b) and Cases of *John* is as follows.

(121) Structure of (110b)



(122) Cases of *John* in (121)

a. f_D: Merge *be a liar* → *be a liar*, external argument[64]

b. f_M : no eligible argument → no defined value

(123) Cases of *I* in (121)

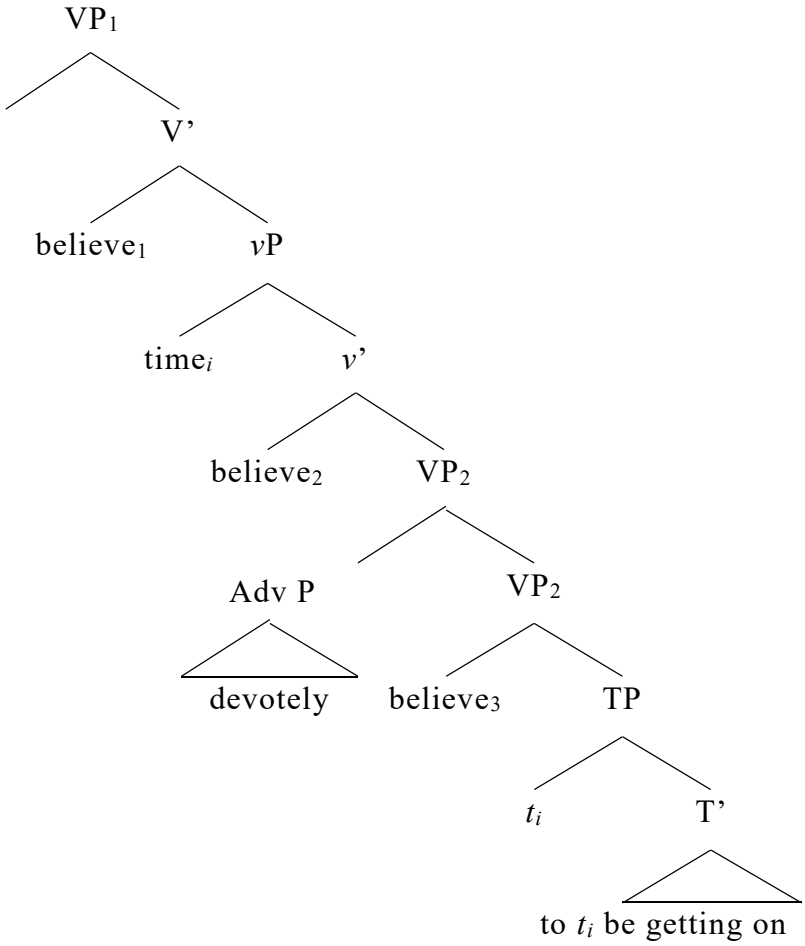
a. f_D : Merge *believe*$_I$ → *believe*, external argument[65]

b. f_M: Move to [Spec, T] → morphological relation with *T*

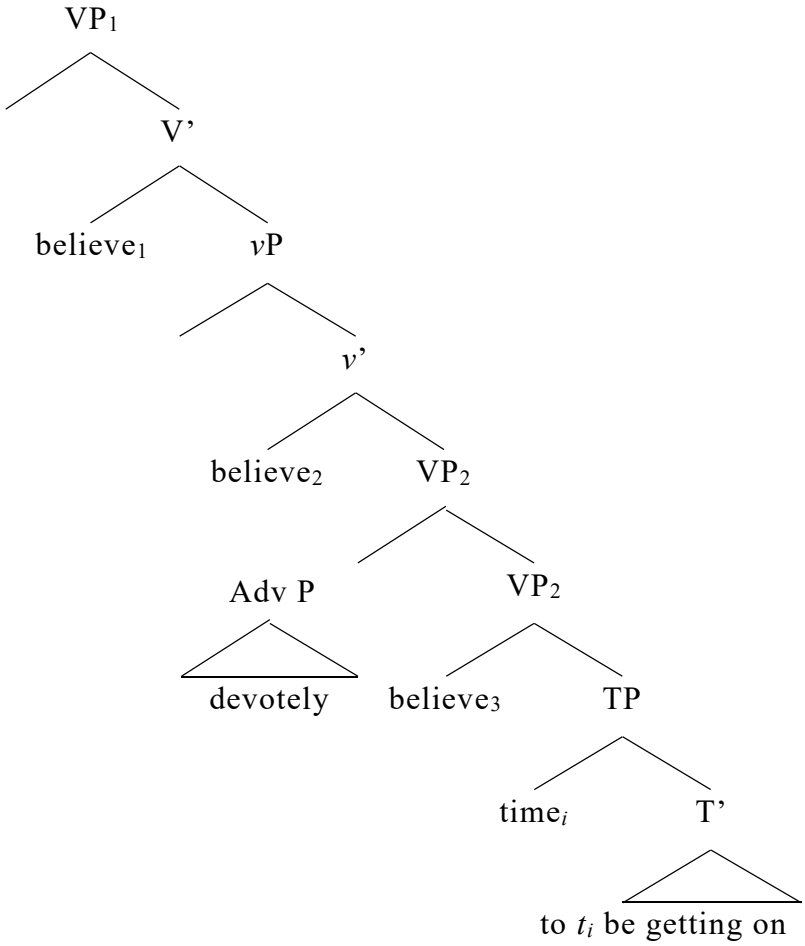
As shown in (123), the Cases of *I* in (121) is same as the Cases of *I* in (118). The ungrammaticality of the sentence is caused by the M-Case of *John*. Since [Move to [Spec, *to*]] cannot be an argument of M-Case, the M-Case of *John* fails to have a value defined. Therefore, the necessary morpho-phonological interpretation is not included in the PF-representation, and PF-representation of the sentence fails to meet the condition shown in (15). As a result, the derivation crashes. If *John* does not precede the adverbial, the M-Case of *John* fails to get a proper argument. Therefore, if an ECM-subject precedes the adverbial which modifies the matrix verb, the sentence will be ungrammatical.

Let us turn to the sentence which has idiom chunk as the ECM Subject. According to (117), the structure of (110c) is as follows.

(124) a. Structure of (110c)



b. Structure of (110d)



(125) Cases of *time* in (124a)

a. f_D: Merge *be getting on* → *be getting on*, external argument[66]

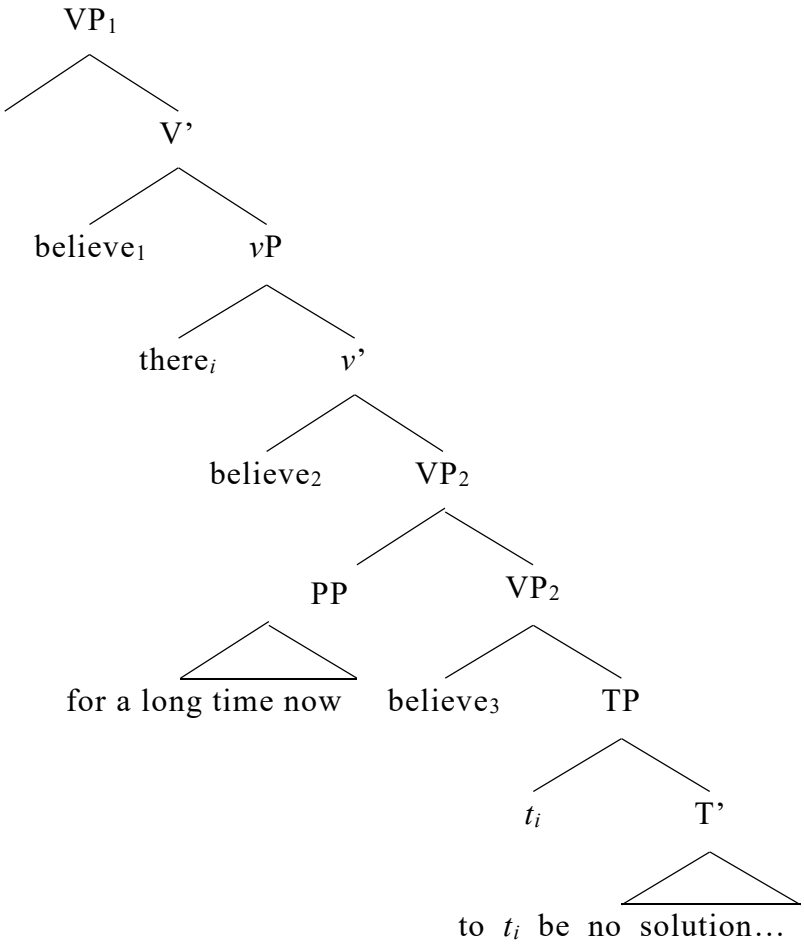
b. f_M: Move to [Spec, *believe*$_2$] → morphological relation with *believe*$_2$

As shown above, the ECM Subject *time* also moves to [*believe*$_2$, Spec] in order to have [Move to [Spec, *believe*$_2$]] as an argument of its M-Case. Since both an ordinary lexical argument and an idiom chunk require the morpho-phonological interpretation and need to have a value of M-Case, they both undergo the same movement. If we assume that idiom chunks are introduced to the derivation

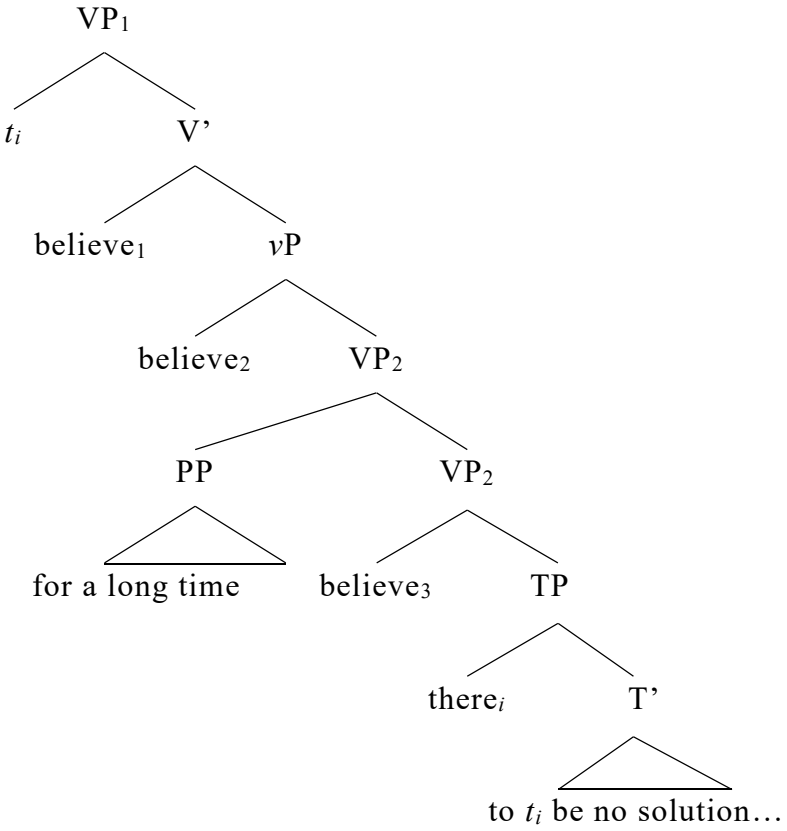
not by Merge, the nominal phrase *time* does not have the domain of D-Case. This point may be related to Cognate Object Construction, which will be considered on in the next chapter.

Let us consider the sentences with *there*. According to our hypothesis, the structure of (114b) and Case of there will be as follows.

(126) a. Structure of (114a)



b. Structure of (114b)



(127) Case of *there* in (126b)

$\mathfrak{f}_D$: Merge *be no solution* → *be no solution*, external argument

As shown in (127), the expletive *there* has only D-Case, as argued in Chapter 3. The D-Case of *there* has [Merge *be no solution*] as its argument and gives us back *[be no solution*, external argument] as its range. As a result, the predicate *be no solution* succeeds to have an external argument and the LF-representation of the derivation can have all the necessary thematic interpretation.

Now let us turn to the PF-representation of (126). As shown in the structure (126), *there* does not move to [*believe*$_2$, Spec], and thus it follows the adverbial *for a long time now*. This is because *there* does not have an M-Case, and therefore the operation [Move to [Spec, *believe*]] is not required. Recall

that the movement which causes the Case adjacency effect is the movement which is caused by the requirement of the M-Case. Therefore, if *there* moves to the Spec of the verb, the superfluous operation takes place, and the derivation will crash.[67]

It should be noted that the condition in (15) will not be violated if the expletive *there* moves to the Spec of $believe_2$. Since the expletive *there* does not have an M-Case, the superfluous interpretation will not be constructed.

If some other requirement such as EPP is evoked, *there* can move to fulfill the requirement. As shown in the structure (126), the expletive *there* moves to the Spec of the infinitival *to*. The movement is not prohibited because the movement is necessary for the derivation to check the [-interpretable] feature. For another example, let us consider the following.

(128) There seems to be trouble in the Congo. (Postal 1974: 34)

In (128), the expletive *there* undergoes overt movement, which is not allowed in the ECM Construction. *There* is allowed to move because the head T has EPP-feature, which needs to be checked with overt movement. Since we adopt Enlightened Self Interest version of Last Resort, the movement is allowed if the head has a feature which needs to be checked by overt movement.[68]

To sum up, this subsection shows that the difference between ordinary lexical arguments and the expletive *there* can be explained by the proposal about the existence of two types of Case. The existence, which is required by the primary concept of Case, enables us to give a proper explanation to the phenomena without adding any ad hoc assumptions. By adopting that the expletive there has only D-Case, and the other nominal phrases have both

D-Case and M-Case enables us to explain the phenomena in English ECM construction. Since the ungrammaticality of the sentences shown in (116) has not been explained, further research is required.

Appendix: On *Allege*-type and *Assure*-type

Since Postal (1974) and Kayne (1984), *allege*-type and *assure*-type verbs have been studied by many scholars, such as Ura (1993) and Bošković (1997).

First, let us examine the verbs which are called *allege*-type verbs in Ura (1993). In what follows, I will present some examples which show the basic properties of *allege*-type verb.

(129) a. *They alleged John to have kissed Mary. (Ura 1993: 272)
b. *John wagered Peter to be crazy. (Bošković 1997: 52)

As the examples in (129) suggest, *allege*-type verbs cannot be followed by the infinitival clause with overt subject. However, there are some sentences which show that the overt subject can be base generated in a subject position of the infinitival clause. Let us consider the following examples.

(130) a. Who did Mary allege to be a pimp?
b. John was alleged to be a pimp. (Ura 1993: 272)

In (130a), the *wh*-phrase *who*, which seems to be a subject of infinitival clause, moves to [Spec, CP], and the sentence is well-formed. In (130b), *John*, a subject of the infinitival clause, is in the subject position of the matrix clause, and the sentence is also well-formed.

There are some other data which shows us another special property of *allege*-type verbs. Consider the following examples.

(131) a.*John alleged little headway to have been made on that project.

(Bošković 1997: 194)

b. They alleged [there to have been a fraud in that lawsuit].

(Ura 1993: 273)

As shown in (131a), idiom chunk cannot occur in a subject position of the infinitival clause. On the other hand, expletive *there* can occur in that position as shown in (131b). Therefore, we can say that idiom chunks and the expletive *there* behave in a different way, and this is also problematic to the current theory of Case.

Now, let us examine the verbs which are called *assure*-type verbs. In some cases, *assure*-type verbs show the same property with *allege*-type verbs.

(132) a.*I assure you John to be the best… (Kayne 1983: 5)

b. Who did Mary assure you t to be the best student?

(Ura 1993: 261)

As shown in (132), assure-type verbs cannot also be followed by the infinitival clause with overt subject. In (132b), the *wh*-phrase *who*, which seems to be a subject of infinitival clause, moves to [Spec, CP], and the sentence is well-formed. The property shown in (132b) is shared between *allege*-type and *assure*-type verbs.

Interestingly however, there are some properties which is not common between *allege*-type and *assure*-type verbs.

(133) a. *I assured him there to be stolen documents in the drawer.

(Postal 1993: 361)

b. *John/That was assured me to be the best. (Postal 1993: 350)

As shown in (133a), when the subject position of the infinitival clause is occupied by the expletive *there*, the sentence is ungrammatical. As shown in (133b), when the sentence is passivized, the sentence is ungrammatical. The difference shown in (131) and (133) mat be explained by referring to the property of verbal head with our new Case theory. Since I could not account for the Cases of *wh*-phrases, the precise analysis will be left for our future research.

Chapter 7
Cognate Object Construction

1. Introduction

In this chapter I will try to investigate the Cognate Object Construction (henceforth COC) in English under our new Case theory. COC can be exemplified by the following sentences.

(134) a. Harry lived an uneventful life.
b. Bill sighed a weary sigh. (Jones 1988: 89)

The sentences shown in (134) are typical examples of COC. Each sentences includes an unergative verb and an object. In the literature, COC has been studied focusing on its behavior which is different from transitive sentences. Interestingly however, COC has a common property with the transitive sentences as well. Therefore, we need an analysis which enables us to capture both of the similarity and the difference between COC and transitive sentences. Our Case theory provides us with such analysis.

In English, there is a similar construction, which is said to be different from COC. It is called Hyponymous Argument Construction (henceforth HAC) in Hale and Keyser (2002), and the construction can be exemplified as follows.

(135) a. He danced a jig.
b. Bill dreamed a most peculiar thing. (Jones 1988: 89)

As we can see in (135), instead of cognate objects, HAC can have the

non-root-identical direct object. There are some more facts which show that COC and HAC behave differently. I will show the difference in a detail in the fourth section and try to analyze the difference in a compatible way with the analysis of COC shown below.

In the following section of this Chapter, I will show the primary data which I will try to analyze. The third section will summarize the previous analysis of COC. In the fourth section, I will analyze the data which I show in the first section by using our new Case theory. In the fifth section, I will refer to the distinction between the COC and HAC, and try to explain the difference. The sixth section will mention the relation between Cognate Objects and the Definiteness Effect.

2. Data

The COC is a construction which includes an object with an unergative verb, which is said not to assign Case. The construction can be exemplified as I mentioned in (134), repeated here as (136).

(136) a. Harry lived an uneventful life.
b. Bill sighed a weary sigh. (Jones 1988: 89)

There are an intransitive verb *live* and *sigh* in each sentences in (136), followed by the objects which are root-identical.

It is pointed out that in some way the cognate object behaves in the same way as the object of transitive verb. This can be exemplified as follows.

(137) a. Let Ben run (*quickly) a little run.

b. Ben sneezed (*that way) a glorious sneeze. (Massam 1990: 166)

As shown in (137), adverbs cannot intervene between a verb and its object. This is the same behavior with idiom chunks and the transitive verb construction. The sentences in (110), repeated here as (138), show that the adjacency effect exists in the sentence with idiom chunks.

(138) a. ?I don't want to believe time devoutly to be getting on.

b *I don't want to believe devoutly time to be getting on.

As shown in (138), the adverbs cannot intervene between a verb and the nominal phrase which requires Accusative Case.

As shown in Chapter 3, Case adjacency effect can be seen in the transitive verb construction as well. The adjacency effect in the transitive verb construction can be exemplified by the sentence in (30), repeated here as (139).

(139) a. John spoke French intimately to Mary.

b *John spoke intimately French to Mary. (Bowers 2001: 315)

As shown in (140), adverbs cannot intervene between a transitive verb and the nominal phrase which is an internal argument of the predicate in the sentence.

There is another phenomenon which shows that the cognate object and the object of the transitive verb has the same property.

(140) a. What sort of a death did John die?

b. What a (gruesome) death John died! (Jones 1988: 92)

As shown in (140), the cognate object can undergo *wh*-movement.[69] Therefore,

we can say that the cognate object behaves differently from the idiom chunks, and similar to the ordinary object in the transitive verb construction. As shown in the following sentence, the idiom chunks cannot undergo *wh*-movement.

(141) a. Mary kicked the bucket.

b. Which bucket did Mary kick? (Heageman and Guéron 1999)

The sentence in (141) shows that the nominal phrase in the idiom chunk cannot undergo *wh*-movement maintaining the idiomatic reading. If the nominal phrase in an idiom chunk undergoes *wh*-movement, the meaning of the sentence will change and the idiomatic reading will not be held.

Now, let us turn to the *wh*-movement in transitive sentences. As shown in the following sentences, an object of the transitive sentence can undergo wh-movement.

(142) a. John kissed Mary.

b. Who did John kiss?

As shown in (142), the nominal phrase which is an object of the transitive sentence can undergo *wh*-movement.

Now, let us turn to the difference between cognate objects and objects of the transitive verbs. There are some sentences which seem to show that cognate objects are different from ordinary objects. Consider the following sentences.

(143) a. *An uneventful life was lived by Harry.

b. *A weary sigh was sighed by Bill. (Jones 1988: 91)

As shown in (143), the COC cannot be passivized. Since *wh*-movement can take place, the movement itself is not prohibited.

On the other hand, idiom chunks and the transitive verb construction behaves differently. As shown in the following sentences, they both can be passivized without changing their meanings.

(144) a. They are making some headway on a solution.

b. Some headway is being made on a solution.

As shown in (144), the sentence which includes idiom chunks can be passivized, and the nominal phrase in the idiom chunk can undergo A-movement.

Thus far, I have showed some data which characterize COC in this section, comparing with idiom chunks and objects in transitive sentences. As shown in (137), (138), and (139), cognate objects, objects in transitive sentences, and idiom chunks have a common property that the adverbials cannot intervene between verbs and the nominal phrases. As shown in (140), (141), and (142), the idiom chunk has a different property from cognate objects and objects in transitive sentences. Cognate objects and objects in transitive sentences can undergo *wh*-movement, but idiom chunks cannot undergo wh-movement. As shown in (143) and (144), cognate objects cannot be passivized while idiom chunks and objects in transitive sentences can. In the following section, I will summarize the analysis by Jones (1988) and Massam (1990), and try to show that each analysis contains a flaw.

3. Previous Analyses

In this section, first I will briefly show the analysis of Jones (1988). Jones (1988) argued as follows.

(145) Cognate objects are adjunct-NPs, acting as modifiers of the VP on a par with manner adverbs. (Jones 1988)

As summarized in (145), Jones (1988) proposed that a cognate object is identified with an adjunct rather than an argument. The proposal of Jones (1988) in (7) enables us to capture the fact that the cognate object cannot be passivized. Consider the following sentences.

(146) a. John arrived this morning.
b.*This morning was arrived by John.
c. Which morning did John arrived? (Jones 1988: 95)

In (146), *this morning* is said to be an adjunct. According to Jones (1988), since the DP is an adjunct, it does not have to check its Case, and therefore the sentence cannot be passivized. The similarity of COC and (146) can be captured by the proposal of Jones (1988).

However, the proposal of Jones (1988) has at least two problems. The first problem is that the proposal cannot correctly predict the meaning of COC. According to Jones (1988), as mentioned above, the cognate object is an adjunct. This means that Jones (1988) regards each example in (136) as having the same meaning with the respective example in (147).

(147) a. John died gruesomely.

b. Harry lived uneventfully.

c. Bill sighed wearily. (Jones 1988: 93)

In the sentences in (147), each sentence includes an unergative verb and an adverb. The claim of Jones (1988) predicts that sentences in (136) and (147) has the same property.

However, there is a fact which shows that (136) and (147) shows a different property on telicity. Consider the following sentences.

(148) a. ?Casey laughed a hearty laugh in 20 seconds.

b. *Casey laughed heartily in 20 seconds.

c. Mayflies live their lives in a day.

d. *Mayflies live a day. (Massam 1990: 178)

As shown in (148), COC can co-occur with an *in*-adverbials, and the sentence without cognate objects cannot co-occur with *in*-adverbials. The co-occurrences with *in*-adverbials are related with telicity, which was first argued by Vendler (1967).

(149) *in*-adverbials are bad with atelic predicates (Vendler 1967)

According to (149), we can say by the contrast in (148) that COC is telic and the sentence with an ordinary unergative verb is atelic. Since there is a clear difference in meanings, it is difficult for us to regard (136) and (147) the same.

The second problem is that, if the Cognate Object is an adjunct and does not need Case, we cannot explain the reason of the ungrammaticality of (137). Therefore, it seems difficult to analyze Cognate Object as an adjunct.

On the other hand, Massam (1990) tries to analyze Cognate Object as an ordinary argument. The analysis succeeds to capture the fact shown in (137), (140), and (148). Since Massam (1990) regards COC as a usual transitive sentence, it is natural to assume that (136) and (147) differ from each other in their telicity. However, the analysis fails to explain the reason of the ungrammaticality of passivized sentences shown in (143). If cognate object is an argument of the verb, it seems strange that the sentence cannot be passivized.

To sum up, there are some facts which indicate that Cognate Object has a similar property with an adjunct, and some facts which indicate that Cognate Object has a similar property with an argument. Therefore, it seems difficult to explain the facts in a consistent way. In the next section, I will analyze the phenomena with our new proposal, and try to show that COC can be explained properly with the proposal.

4. New Analysis

In this section, I will try to derive the properties of COC shown in the second section. The target properties are illustrated in the followings;

(150) Properties of COC[70]

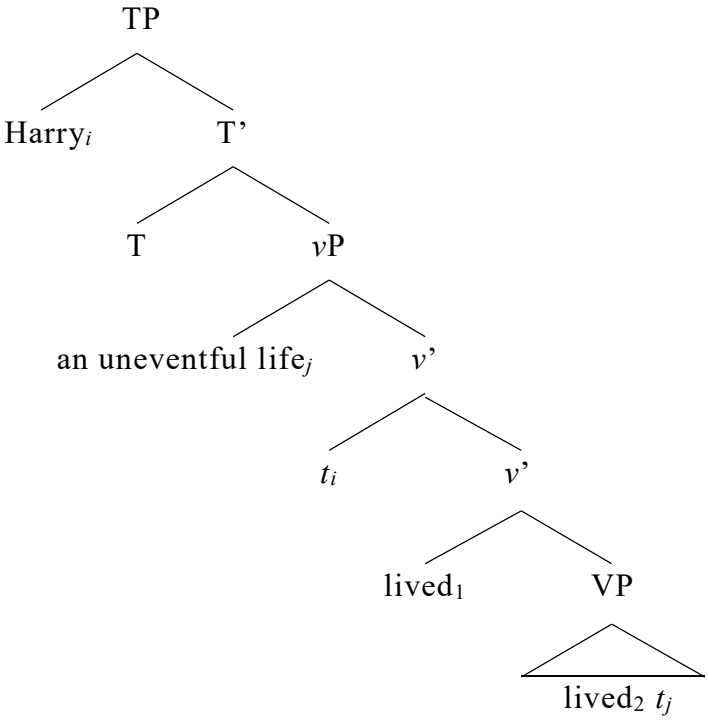
a. The placement of adverbs is restricted in COC as is the case with the ordinary transitive sentences.

b. COC cannot be passivized.

The property shown in (150a) is exemplified by the sentences in (137), and the property in (150b) is exemplified by the sentences in (143). These two

properties can be explained by assuming that Cognate Object has only M-Case, and the D-Case of a cognate object does not have an argument. To be more precise, the structure of (136a) and Cases of the nominal phrases is shown in the following.

(151) Structure of (136a)



(152) Case of *an uneventful life* in (151)

a. f_D: no eligible argument → value undefined

b. f_M: Move to [Spec, *lived*$_1$] → morphological relation with *lived*$_1$

(153) Cases of *Harry* in (151)

a. f_D: Merge *lived*$_1$ → *live*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

I adopt the analysis of Hale and Keyser (2002) in this thesis. According to Hale and Keyser (2002), COC is derived by Conflation. Hale and Keyser (2002) defined Conflation as follows.

(154) Conflation (Hale and Keyser 2002: 63)

Conflation consists in the process of copying the p-signature of the complement into the p-signature of the head, where the latter is "defective".

P-signature is the term used by Hale and Keyser, which refers to a phonological feature set of some sort, possibly a set of feature matrices. According to Hale and Keyser (2002). The p-signature is partially defective with one part consisting of a set of phonological features and the other consisting of an empty root. English unergative verbs such as laugh and sneeze are regarded as this case. The verbal head has a defective p-signature, lacking phonological features. The complement has a substantial p-signature. When the items are selected and undergo Merge, the label of the verbal head is projected to define the features of the construction as a whole.

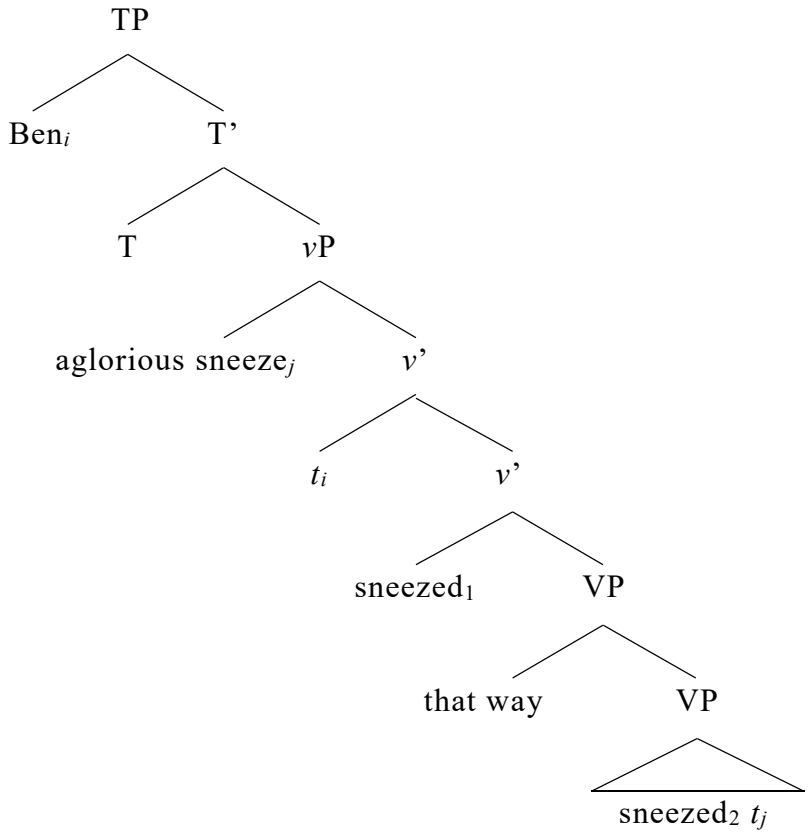
Adopting the abovementioned analysis of COC, Cognate Object is not Merged with *live*, but an empty verbal head. Therefore, the D-Case of Cognate Object fails to have an argument as shown in (152a). The lack of the value does not cause the ungrammaticality of the sentence because the predicate does not require to have two arguments. The D-Case of *Harry* takes [Merge $live_1$] as an argument and gives us back [*live*, external argument] as its value. Since the predicate *live* requires only one argument, the LF-representation of the sentence has all and the only necessary thematic interpretation and the condition in (16)

is met.

Now, let us turn to the PF-representation. There are two nominal phrases which requires to have a morpho-phonological interpretation in the derivation. Since the M-Cases of the nominal phrases has an argument, both M-Cases give us back a value. Therefore, the condition in (15) is met, and the whole derivation converges.

Since we assume that adjacency effect is caused by the movement for the M-Case as argued in Chapter 3, the structure in (151) naturally derives the ungrammaticality shown in (137). To be more precise, the structure of (137b) is as follows.

(155) Structure of (137b)

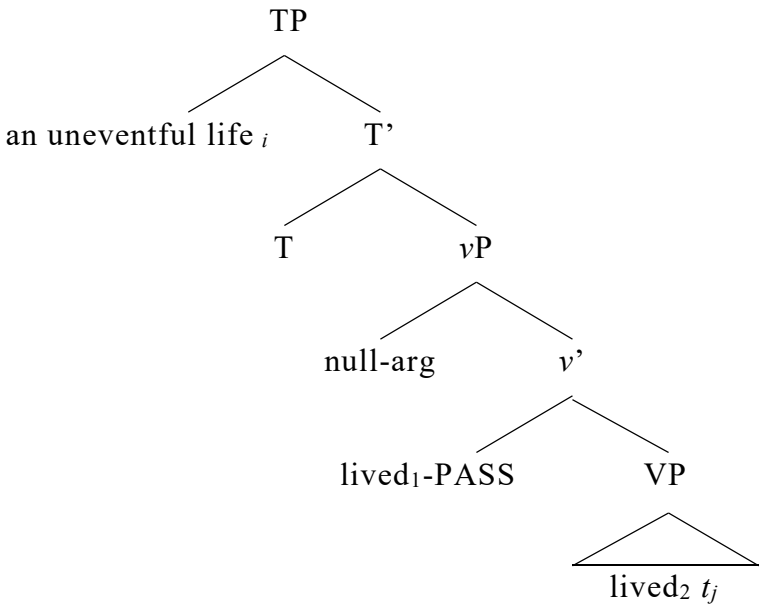


As shown in (155), the adverbial phrase *that way* is adjoined to VP. Since the

nominal phrase *a glorious sneeze* is in the specifier of *v*P, it is impossible for the adverbial phrase to lie between the verb and the cognate object. When the adverbial phrase that way intervenes between the verb and the nominal phrase, the nominal phrase remains in VP. Therefore, the M-Case of the nominal phrase fails to have an eligible argument, and the PF-representation of the sentence fails to define the necessary morpho-phonological interpretation. The violation of the condition in (15) causes the ungrammaticality.

Now, let us turn to the passive sentences in (143), which are ungrammatical. According to the previous Chapter, the passive sentence in (143a) should the following structure, and Cases in the sentence will be as follows.

(156) Structure of (143a)



(157) Case of *an uneventful life* in (156)

a. f_D: no eligible argument → no value defined

b. f_M: Move to [Spec, T] → morphological relation with *T*

(158) Cases of *null argument* in (156)

f_D: Merge $lived_1$ → *live*, external argument

As shown above, the D-Case of the Cognate Object *an uneventful life* has no eligible argument. The lack of the value of D-Case cannot be a cause of the ungrammaticality because in (136) the sentence is grammatical. The D-Case of the null argument has [Merge $lived_1$] as an argument and give us back [*live*, external argument] as its value. The predicate in the sentence requires only one argument, so the LF-representation of the sentence succeeds to have all and the only necessary thematic interpretation, and the condition in (16) is met.

The PF-representation of (156) meets the condition in (15). As shown in (157), the M-Case of the nominal phrase which requires to have a morpho-phonological interpretation succeeds to have an eligible argument, [Move to [Spec, *T*]]. Since the null argument does not require the morpho-phonological interpretation, all the necessary morpho-phonological interpretation is included in the PF-representation of the derivation. Therefore, we can say that the PF-representation of (156) meets the condition in (15).

Since the derivation shown in (156) meets the condition in (14), the derivation should converge. Contrary to the prediction, the sentence is ungrammatical. This can be explained by assuming that PASS can only be attached to the verbal head whose Spec is an eligible argument of M-Case. As mentioned above, the verbal head used in COC is not *live* in the lexicon and becomes *live* in the derivation. Since PASS can be attached only to the verbal head whose Spec is an eligible argument of M-Case, the "null" verbal head cannot undergo the attachment. As a result of the prohibition of the attachment,

the structure shown in (156) cannot be derived.

To sum up, in this section, I show the basic analysis on Cognate Object. In our theory, the M-Case of Cognate Object causes the adjacency effect, and the lack of the specific verbal head in the lexicon causes the prohibition of passivization. In the next section, I will analyze the difference between Cognate Object and Hyponymous Argument.

4. Cognate Object and Hyponymous Argument

In the previous section, we have seen that the special property in Case feature makes COC have special properties. This section is an attempt to explain the difference between COC and HAC. I will try to show that we can explain the difference by utilizing the distinction between Argument and non-Argument.

According to Hale and Keyser (2002), we can define COC and HAC by considering the following sentences.

(159) a. She slept the sleep of the just.
b. *She slept her last nap.
c. He danced a jig. (Hale and Keyser 2002: 71)

As shown in (159), different from HAC, COC cannot take the non root-identical argument. This property makes it possible to distinguish the HAC and COC.

There are two more different properties between COC and HAC. First, COC reject pronominal versions of their cognate object, mentioned by the following sentences.

(160) a. *John slept the sleep of the just and Bill slept it too.

b. *John laughed the last laugh and Bill laughed it too.

c. John danced the tango and Bill danced it too.

d. Robin sang the songs of the 60s and Bill sang them too.

(Hale and Keyser 2002: 71)

As shown in (160a) and (160b), the cognate object cannot be pronominalized. On the other hand, as shown in (160c) and (160d) hyponymous argument can be pronominalized.

Secondly, different from COC, it is said that HAC can be passivized. This can be exemplified as follows.

(161) a. * A gruesome death was died by John. (Jones 1988: 91)

b. The tango was danced everywhere.

As shown in (161b), the hyponymous argument can be passivized.

The three differences can be explained by adding one more assumptions: the verb in HAC is not an unergative verb which is derived by conflation, but an transitive verb which requires two arguments. [71] Adopting this assumption, we can explain the contrast shown in (159), (160), and (161).

First, let us focus on the contrast in (159). The sentence in (159a) has the similar structure as (151), shown in the previous section. The ungrammaticality of the sentence shown in (159b) can be explained in two ways at least. The first way is to assume that the unergative verb is always generated by conflation.

To put it differently, the intransitive sentence without a cognate object

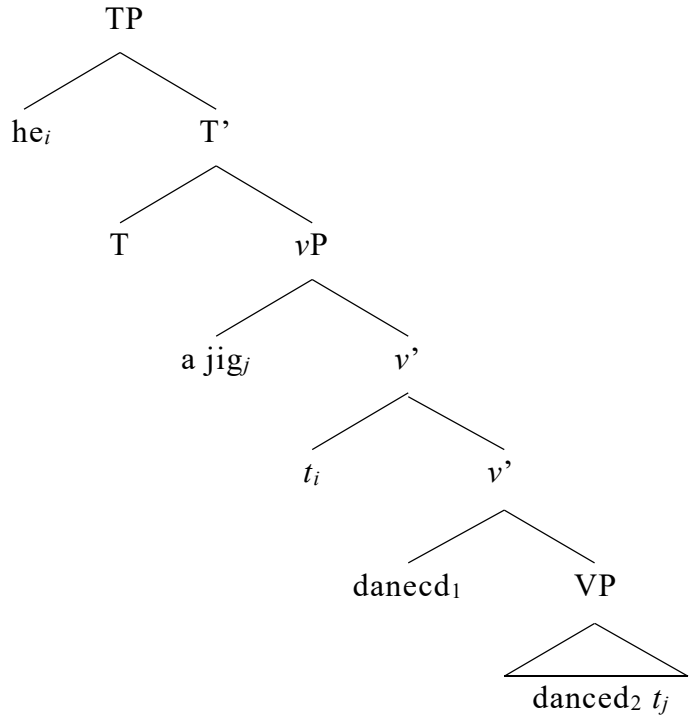
will be treated as a result of the deletion of the object. If the nominal phrase is deleted after the conflation takes place, the sentence will be realized as an intransitive sentence. If the nominal phrase remains overtly after the conflation, the sentence will be realized as COC. Adopting this assumption, unergative verbs cannot have any object which has different phonology.[72] Therefore, the sentence in (159b) is ungrammatical.

The second way is to assume that an unergative verb can have a nominal phrase which has different phonology in the object position. Adopting this assumption, the ungrammaticality of the sentence is caused because the LF-representation of the sentence violates the condition in (16). If an unergative verb has a phonologically different nominal phrase, the VP cannot be derived by conflation. If so, the unergative verb and the nominal phrase is Merged in the derivation. As a result the D-Case of the nominal phrase will have [Merge V_2] as its domain, and gives us back [V, internal argument] as its range.

Since the predicate does not require to have an internal argument, the thematic interpretation is superfluous. Since the LF-representation includes the superfluous thematic interpretation, the LF-representation fails to meet the condition in (16) and the derivation crashes. In either way, the ungrammaticality of (159b) can be explained.

Now, let us turn to the sentence in (159c). According to our theory the structure of (159c) and the Cases in the derivation will be as follows.

(162) Structure of (159c)



(163) Case of *a jig* in (162)

a. f_D: Merge danced$_2$ → *danced*, internal argument

b. f_M: Move to [Spec, *danced*$_1$] → morphological relation with *danced*$_1$

(164) Case of *he* in (162)

a. f_D: Merge *danced*$_1$ → *danced*, external argument

b. f_M: Move to [Spec, *T*] → morphological relation with *T*

As shown in (162), the nominal phrase *a jig* is introduced to the derivation by the operation Merge. The D-Case of *a jig* has [Merge *dance*$_2$] as an argument, and gives us back [*dance*, internal argument] as its value. The D-Case of he has [Merge *dance*$_1$] as an argument, and gives us back [*dance*, external argument] as its value. The predicate in the sentence requires to have two

arguments, the LF-representation succeeds to have all and the only thematic interpretation, and the condition in (16) is met.

The PF-representation of the sentence meets the condition in (15). There are two nominal phrase in the sentence which require to have a morpho-phonological interpretation. Both M-Cases of the two nominal phrases have eligible arguments and gives us back values, so the PF-representation of the sentence succeeds to have all and the only necessary morpho-phonological interpretation. Therefore the condition in (15) is met and the derivation converges.

To sum up, the cognate object does not have an eligible argument for the D-Case since it only undergoes the operation Merge to the null verb. Since an unergative verb does not requires an internal argument, even the D-Case of the nominal phrase *sleep* does not have a defined value, the derivation will converge. The ungrammaticality of the sentence in (159b) is caused by the impossibility of conflation in some sense. In (159c), the nominal phrase *a jig* is introduced to the derivation by Merge, and therefore its D-Case have a defined value as an internal argument of the verb. Since the verb in HAC is a transitive verb and requires an internal argument, the value is not superfluous for the derivation, and does not cause the violation of the condition in (16).

The contrast shown in (160) can be explained in the same way with (159b) and (159c). Since it cannot cause a conflation, the sentence in (160a) cannot be derived. On the other hand, the verb in HAC does not require conflation and the verb is transitive. Even if the D-Case of *it* has an argument, the LF-representation does not have a superfluous thematic interpretation. Therefore the LF-representation of the sentence meets the condition in (16) and

the derivation will converge.

The contrast shown in (161) can be explained with the assumption that the verb in HAC is not derived by conflation, and the verb in COC is. Since we assumed that passive morpheme cannot be attached to the null head and that causes the .ungrammaticality in the passivization of COC, the passivization of HAC does not cause the ungrammaticality. Since PASS can be attached to the verb in HAC in the lexicon, and the sentence can be passivized.

In summary, the different properties found between HAC and COC can be captured by assuming that the hyponymous argument and cognate object, and the verbs in each construction have a different property in M-Case feature. To confirm this assumption, we need a test which enables us to distinguish between Argument and non-Argument, which I cannot show in this thesis.

5. Definiteness Effect and Cognate Objects

It is said that Definiteness Effect can be seen in COC. Definiteness Effect is a restriction which I took up in Chapter 3. The restriction can also be seen in COC. This point can be shown by the following sentence.

(165) *He smiled the smile for which he was famous. (Gallego 2012; 99)

As shown in (165), it is said that the Definiteness Effect can be seen in COC.

The common point with the associate of *there* and the cognate object is the lack of D-Case and the existence of M-Case. The lack of D-Case may cause some effect on M-Case: the nominal phrase which fails to have the value of D-Case have a restriction on the argument of its M-Case. To be more precise, such nominal phrases require the morphological relation with the verb.

This is merely a stipulation, but it may enables us to give a unified explanation on the definiteness restriction. Stowell (1989) and Longobardi (1994) show the similar analysis. Longobardi (1994) assumes that DP can be an argument, but NP cannot. According to Longobardi (1994), NP can only be licensed through a predicative interpretation. This is compatible with our analysis. Suggesting the possibility of accounting for the associate of *there*-construction and Cognate Object in the same way, the concrete analysis will be left for future research.

Chapter 7
Conclusion and Remaining Issues

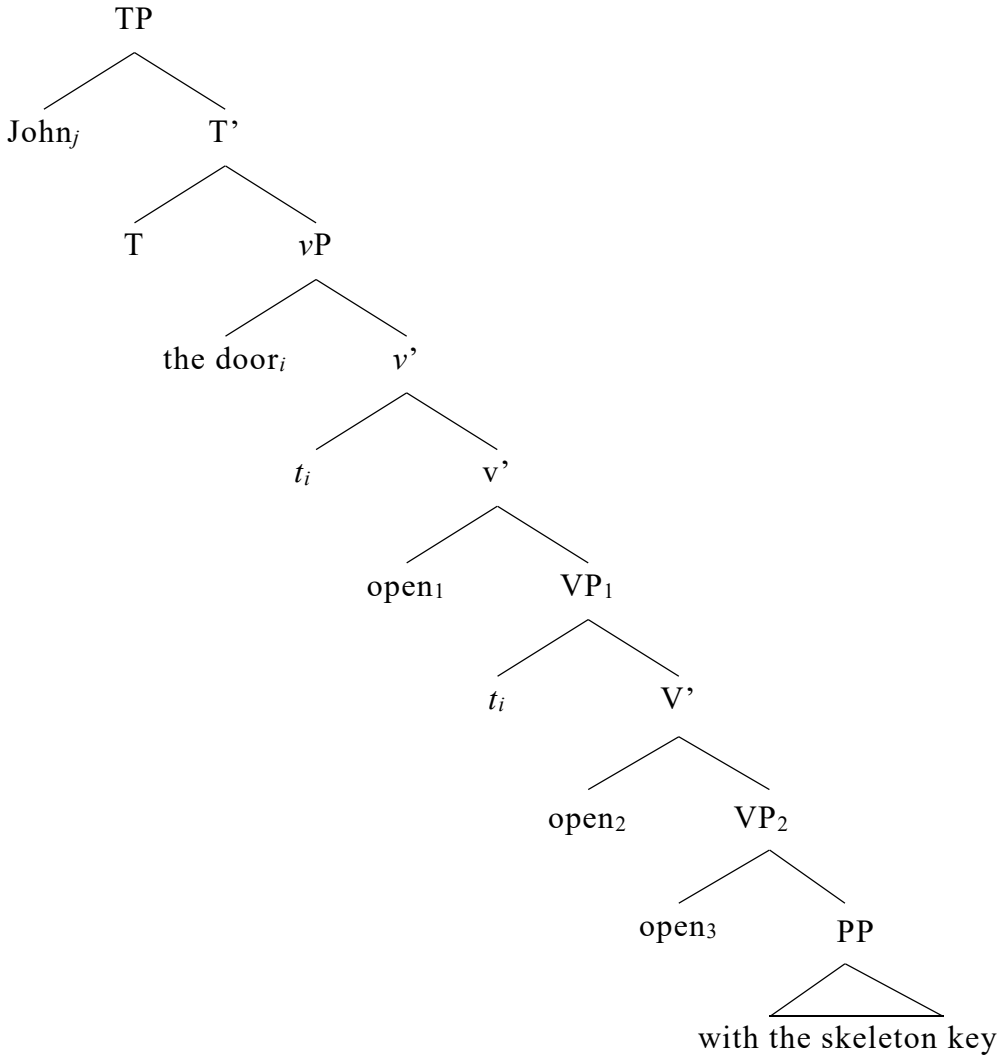
1. Case for something other than NP

As one example of many remaining issues, I would like to focus on the D-Case. In this thesis, I adopt the existence of D-Case, and the condition on D-Case takes the place of θ-Criterion. This implies that D-Case is necessary (or available) for any syntactic object which is said to have θ-role, regardless of its category. The following sentences includes the D-Case assignee which is not NP.

(166) John opened the door with the skeleton key (Lasnik 1988: 1)

The predicate *open* in (166), has three θ-roles: agent, theme, and instrument. In (166), the role of agent and theme is realized by DP, and the instrument role is realized as a *with*-phrase. Since we adopt that the thematic interpretation is assigned through D-Case in this thesis, the instrument role of the *with*-phrase should have D-Case. The structure of (166) and Cases in (166) will be as follows.

(167) The structure of (166)



(168) Cases of *John* in (167)

a. f_D: Merge *open*$_1$ → *open*, external argument

b. f_M: Move to [Spec, T] → morphological relation with *T*

(169) Cases of *the door* in (167)

a. f_D: Merge *open*$_2$ → *open*, internal argument

b. f_M: Move to [Spec, *open*$_1$] → morphological relation with *v*

(170) Case of *with the skeleton key* in (167)[73]

f_D: Merge $open_3$ → *hit*, internal argument

As shown in (170), the PP *with the skeleton key* has a D-Case, and it has [Merge $open_3$] as an argument. Since we adopt that the thematic relation can be realized in the LF-representation by D-Case, we need to adopt the D-Case not only for NP or DP, but also for PP, AP, and CP. Since I did not concern about PPs in this thesis, we need to consider on M-Case of PPs. I will leave this point for the future research.

2. Conclusion

In this thesis, I set out to develop a new Case theory which enables us to capture the function of Case in the human language. More specifically, I proposed in Chapter 2 that Case transforms the structural information of a nominal phrase to the thematic/morpho-phonological interpretation of the nominal phrase. I adopt two Cases in the thesis: Morphological Case (M-Case), a Case for the A-P system, and Diathetic Case (D-Case), a Case for the C-I system. Each Case serves as a function which maps the syntactic position to the interpretation. The domain of M-Case is a syntactic position of the nominal phrase, and the range is a morpho-phonological interpretation. The domain of D-Case is a syntactic position of the nominal phrase, and the range is a thematic interpretation of the nominal phrase. The proposal enables us to deduce Case Filter and θ-Criterion into the condition on Full Interpretation, which is a general condition on the representation.

The proposal that Case is a function which maps a syntactic position to a

morpho-phonological/thematic interpretation enables us to subsume the Case Filter and θ-Criterion into the general condition on Full Interpretation. The value of M/D-Case is necessary for the derivation to have an interpretable PF/LF-representation. Since the morpho-phonological interpretation of a nominal phrase is a value of M-Case of the nominal phrase in the derivation, the Case Filter will be subsumed into the condition on the PF-representation of a sentence. Similarly, since the thematic interpretation of a nominal phrase is a value of D-Case of the nominal phrase in the derivation, the θ-Criterion can be subsumed into the condition on the LF-representation of a sentence. For the convergence of the derivation, the representations of the derivation need to include all and the only necessary interpretations. In order to meet the requirement, the operation takes place. Adopting this theory enables us to capture (almost) the same phenomena as the previous Case theory and θ-theory without adding conceptually superfluous assumptions. Moreover, treating Case as a function, Case and θ-role as an entity can be eliminated.

The application of the theory to the basic data is shown in Chapter 3 and Chapter 5. Chapter 3 focuses on transitive, ditransitive and intransitive verbs in English, and Chapter 4 focuses on passivization. In Chapter 4, Chapter 6, and Chapter 7, the theory was applied to some constructions which include nominal phrases which was said to have a special behavior on Case. Chapter 4 focuses on *there*-construction, analyzing the expletive *there* in English and the associate of the expletive *there*. Chapter 6 focuses on ECM construction and Case Adjacency, and Chapter 7 focuses on Cognate Objects. Each phenomenon has the property which was difficult to explain with the previous Case theory, and they are recaptured with our new theory. Though some analysis are

tentative and clumsy, I believe that the approaches in this thesis give rise to new investigations on Case and related phenomena. The possible expansion of this theory shown in this thesis will be left for the future research.

Notes

[1] Following Ura (2001), I use the term Case (capital C) in order to refer to "abstract Case", and case (small letter c) to refer to the morphological forms of case.

[2] The argumentation which shows the necessity of the structural information in LF-representation will be shown in the next chapter.

[3] It might be possible for us to assume that there are three verbal heads in the structure of (8), and argue that both *Mary* and *Bill* is in the complement (or the specifier) position of the head. However, even if the nominal phrases are in such positions, it seems to be difficult for us to say that the two arguments have the same θ-role. This is because one syntactic position should correspond to one θ-role. Since the nominal phrases are in the different positions in this case, they cannot have the same θ-role.

[4] See Chomsky (1995: 187-188) for detailed discussion.

[5] I use the term "nominal phrase" in order to refer to NP or DP without theoretical specification.

[6] In this place, I restricted myself to refer to the nominal phrase. However, the role of Case may not be limited to the nominal phrase. Considering the concept of Case, all the phrases which is said to bear θ-role will be in the scope of Case. I will come back to this point in Chapter 7.

[7] I am referring by using the term "root" and "suffix" both to the noun and to the verb (or predicate). It depends on the language whether the nominal phrase

or the verb has a morphological realization of the agreement relation, so I avoid a definite term.

[8] What I call "morpho-phonological interpretation" here is rather vague. There seems to be at least two possibilities what the interpretation is. One possibility is that morpho-phonological interpretation is concerned with the word order. In other words, morpho-phonological interpretation which Case realizes determines the linear order of the sentence. Another possibility is that morpho-phonological interpretation is concerned with the agreement. To be more precise, Case conveys the information that shows which nominal phrase builds up the agreement relation (φ-feature checking relation) with the (functional) head, and Case ensures the agreement. In order to make a prediction what has a Case and what does not, we need to clarify what interpretation Case realizes. In this thesis, I adopt the latter possibility temporarily. It is necessary to argue on the two possibilities and demonstrate that the latter is the fact, but I will leave this point to my future research.

[9] I will adopt the feature checking theory in the other part such as EPP. Therefore, the nominal phrase is a feature boundaries which has a feature which can check EPP. The other syntactic objects such as PP or CP may have Case, but since it is too broad to cover in this thesis, I will not concern about them.

[10] The Case is a partial function, and therefore not all syntactic relation is eligible for the domain of the Case. The restriction of the domain will be shown concretely in the following part.

[11] Recall that I refer to the syntactic position of α by using the operation which

α has undergone in the derivation.

[12] To capture Ura's (2000) theta-position checking parameter (θ-PC parameter), the eligible domain of the Case should vary from language to language. What Ura (2000) calls [+θ-PC] is the language whose M-Case can take Merge as a domain. I will leave the detailed discussion to the future research.

[13] I will focus on what can be Case assigner, and on the verb types in the latter part of this thesis.

[14] Since the D-Case is a function, there is no D-Case "assignment". What I call D-Case assignment is equivalent for D-Case to have eligible argument which enables the D-Case to define its value. I use the term "assign" for the understandability.

[15] There may be some other D-Case assigner in the human language. The word which is said to assign theta-role can be a D-Case assigner, so what is called "predicate" can be a D-Case assigner. I will leave this point for our future research.

[16] There is a possibility that the operation Move works as an eligible domain of D-Case. I will not inquire into this possibility here.

[17] To define the necessary morpho-phonological interpretation of the sentence, we need to clarify what the morpho-phonological interpretation is.

[18] This assumption may change if a role of the morpho-phonological interpretation changes. Furthermore, it may differ between languages which nominal phrase need to have a morpho-phonological interpretation. Since I adopt that the morpho-phonological interpretation is concerned with the

agreement for the present, in other languages which has richer agreement system than English, the necessity may differ. It is too broad for this thesis to analyze the difference, I will leave it to the future research.

[19] I adopt this restriction only on English in this thesis. This restriction may not be universal. The restriction seems to be related with Multiple Specs in Ura's (2000) sense. Ura (1994, 2000) claims that multiple Specs of a head H are possible only when H has multiple sets of Fs, and that the ability of H to have multiple sets of Fs is determined by a (lexical) property. According to Ura (2000), if H has multiple sets of Fs and a feature with the property of [+multiple] can enter into more than one checking relation, and a feature with the property of [-multiple] can enter into only a single checking relation. If a language has a [+multiple] Case feature in Ura's (2000) sense, the language should not have the restriction adopted here. I will restrict myself only to suggest the possibility here.

[20] If a syntactic operation targets a phrase rather than head, I will refer to the name of a phrase. The complex predicate will be an example of such case.

[21] In order to capture the phenomena mentioned above, we need to adopt that the morphological realization of a nominal phrase is sometimes decided by the D-Case of the nominal phrase. The concrete application of the theory to the phenomena will be left for our future research.

[22] It should be noted that Case is not an entity, the nominal phrase cannot "have" Case. The notion here means that Cases which maps the syntactic position of the nominal phrase to the interpretation. To make it easier, I use the same

notion hereafter. All notions intends the same meaning.

[23] The expression of the range does not necessarily have to be "external argument". It can be agent, or the first argument, etc. I will leave this point undetermined.

[24] It is possible for us to suppose some other structure. However, such structures may include some more superfluous interpretations in the representation. Therefore, I consider the structure shown in (26), which has the least superfluous interpretations in the representation.

[25] There is another way of analyzing the sentence in (23b). Suppose that the operation Merge is allowed only if the operation is necessary for the derivation to have a legitimate representation. That leads us to the conclusion that *Bill* cannot Merge hit_2 because the derivation can have a legitimate representation without that operation. Following Chomsky, this thesis suppose that Merge is costless, and therefore the Merge of *Bill* and *Mary* is both allowed in (23b).

[26] It should be noted that there is a possibility that the M-Case of *Bill* has an argument by moving to [Spec, hit_1], and that the ungrammaticality occurs because of the superfluous relation which exists in the derivation. If Move is a kind of Merge and it is a costless operation, we need to take this choice. If Move is not a costless operation, it is impossible for *Bill* to move to [Spec, hit_1] because the relation is superfluous and it cannot motivate an operation. Since we adopt that in the same derivation the same movement cannot be taken as an argument of more than two M-Cases in English, *Bill* cannot have [Spec, hit_1] as an argument of M-Case. Though we need more precise argumentation, I will

leave this point here.

[27] I will assume in this thesis that the movement takes place in the prepositional phrase, and the move to the specifier of *to* is a canonical argument of the M-Case, and therefore the nominal phrase *Mary* can have a morpho-phonological interpretation in the prepositional phrase.

[28] In (30), the argument of the predicate *speak* should be the prepositional phrase *to Mary*, rather than the nominal phrase *Mary*. Therefore, the D-Case which has a value as an argument of the predicate should be the D-Case of the prepositional phrase. Since I did not cover the D-Case of the prepositional phrase in this thesis, I represent the D-Case as shown above.

[29] In this thesis I refer to the thematic interpretation by the term "internal argument" and "external argument". This is because I do not want to classify the thematic relation by calling its name. Since the predicate speak in this sentence has more than two thematic relation, I temporarily use the term "second-internal argument". Though it may seem to be strange, the term shows that the thematic relation of *French* and (to) *Mary* is different.

[30] Since I adopted in this thesis that Move to the specifier of the Case licensor, I need to assume that the overt movement takes place in the prepositional phrase.

[31] In order to make the argument accurate, I need to show how the structure will have its linear order. It is clear that we cannot Kayne (1994), since the correspondence relationship between the structure and the word order shows the different prediction from Kayne (1994). There are at least two way to solve this problem. One is to make up a new theory to decide a linear order from a

syntactic structure. The other is to assume that there is a head in the higher position to which the verbal head moves. I will leave the proof to show which the better way is.

[32] It should be noted that second-internal argument does not mean there is some kind of specific order of the thematic interpretation. The notion [*give*, second-internal argument] is an equivalent to "theme of the verb *give*". Since I do not want to refer to the name of the specific "θ-role", I use the above mentioned term.

[33] Following the previous studies, I use the term "internal argument" in order to refer to the argument of the unaccusative verb, and the term "external argument" in order to refer to the argument of the unergative verb. However, it might be unnecessary to refer to the "position" of the argument in the LF representation.

[34] The fact shows that the verbal agreement is induced by the associate of the expletive *there*. Therefore, I need to show how the associate of the expletive have the morphological relation with *is/are*. I will come back to this point in the latter section.

[35] In this semantic representation, the nominal phrase *a man* is interpreted as a predicate. Therefore, the D-Case of *a man* should not have a value as an argument of a predicate. I will come back to this point in the latter section, which will be concerned with the associate of the expletive *there*.

[36]In this thesis I assume that the nominal phrase *a man* is externally merged with the prepositional phrase *in the garden*, and is moved to the specifier of the verb *is*. Since neither a man nor in the garden is an argument, it seems to be

difficult to identify the label of the maximal projection. This is because there seems to be no head which motivates the operation. If we adopt the existence of the head X which takes the prepositional phrase and the nominal phrase as its argument, the problem does not occur. The other solve to the problem is to adopt the third syntactic operation Adjoin. Though this is an important point to the whole system and worth arguing, it is so tough for me to make a concrete argumentation in this thesis. Therefore, I temporarily call the phrase which is constructed with the nominal phrase and the prepositional phrase XP. I will argue on the Cases of *a man* in the latter section which is concerned with the associate of the expletive *there*. The possibility of the syntactic operation Adjoin will be mentioned in note 37.

[37] Since the Case is treated as a function, there is no "having" Case. "The expletive there does not have M-Case" means even if the expletive there is moved to the syntactic position which is able to be an argument of M-Cases. The mapping from the syntactic position to the morpho-phonological interpretation does no take place.

[38] It is necessary for us to clarify what relation exists between the nominal phrase and the prepositional phrase, and what the value of the D-Case of the nominal phrase is. As shown in the previous section, I adopt that XP is calculated by using Predicate Modification. In this thesis, I temporarily use the term "modification" in order to refer to such relationship. To put it differently, if two syntactic objects are calculated by using Predicate Modification, the relation "modification" exists between the two syntactic

objects. Therefore, I will use “modification” as a value of D-Case, whose argument is referred to by the operation “Adjoin”. It is obvious that there are many consequences by adopting these terms, I will leave it to our future research.

[39] In this thesis, I use the term “Merge” and “Move” in order to refer to the syntactic position. “Merge” is a domain for D-Case, and D-Case realizes the thematic interpretation of the nominal phrase. Since this thesis only concern with the nominal phrase, the range of D-Case is the interpretation as an argument. However, as shown above, the D-Case of the nominal phrase *a man* seems to need some other syntactic operation as its argument, and gives us back a value which is different from the external argument of the prepositional phrase. In order to gain such value in a compatible way with the analysis which I show in this thesis, it is one way to adopt the new domain of D-Case: Adjoin. This may be problematic because this assumption means that the syntactic operation recognize the semantic relation between the syntactic objects. Though a precise argumentation should be made, I will restrict myself to suggest the possibility in this thesis.

[40] Since the notion is theoretically specific, it may have to be avoided. I use this notion tentatively in order to give an explanation to the associate of the expletive *there*.

[41] Strictly speaking, the term thematic interpretation is not proper to refer to the relation “modification”. Therefore, the range of the D-Case should be changed if we adopt the operation Adjoin as a domain of D-Case. The range of D-Case

must be what status of the nominal phrase has in the sentence.

[42] This assumption may enable us to capture the grammaticality of the following sentences.

(i) a. *I've believed there for a long time now to be no solution to this problem.

b. I've believed for a long time now there to be no solution to this problem.

(ii) a. I figured it out in about five minutes to be impossible to solve the problem.

b. *I figured in about five minutes it out to be impossible to solve the problem.

As shown in (i), the expletive *there* does not show the Case adjacency effect. On the other hand, as shown in (ii), the expletive *it* shows the Case adjacency effect. Since the Case adjacency effect will be deduced to the overt movement for M-Case, the assumption seems to be proper. I will analyze the sentence in (i) precisely in Chapter 5.

[43] This would not be the case if we adopt that the infinitival to has some semantic interpretation in the sentence.

[44] The notion [+M-Case] means the nominal phrase has an M-Case, and therefore the nominal phrase needs a morpho-phonological interpretation. Though there is a possibility that there is a nominal phrase which has an M-Case but does not require to have a morpho-phonological interpretation, I will not consider the possibility.

[45] The notion [+D-Case] means a nominal phrase has a D-Case, and therefore the nominal phrase can be treated as an argument of the predicate. It should be noted that +D-Case does not mean that the nominal phrase has to undergo the syntactic operation which can be an argument of D-Case.

[46] This does not mean that the nominal phrase cannot undergo the syntactic operation which is in the domain of M-Case. Since the nominal phrase does not have M-Case, even the nominal phrase undergoes the operation, the morpho-phonological interpretation will not be generated. Therefore, as long as there is a motivation of the operation, the nominal phrase can undergo such operations without generating the superfluous morpho-phonological interpretation in the PF-representation.

[47] "Case position" means the syntactic position which can be an argument of M-Case, and gives us back a defined morpho-phonological interpretation of the nominal phrase.

[48] In order to prevent the circulation of the argumentation, it is necessary for us to define whether a given nominal phrase has the M-Case or not independently.

[49] It should be noted that this does not mean that a nominal phrase cannot be combined with the constituent which is consist of a nominal phrase and a predicate. If we adopt the operation Adjoin, the nominal can be combined with the constituent. Since the operation is different from Merge, the superfluous thematic interpretation will not be caused in this case.

[50] Since I adopt the existence of two Cases in the human language, there can be a D-Case demotion as well. If a D-Case of the predicate is demoted, the

predicate will not require fewer argument than usual. If so, the D-Case demotion may be related to the causative alternation. It should be noted that the D-Case demotion is different from assigning the thematic interpretation to null arguments. Since these two phenomena have the same structure, which has the single overt argument of the predicate, some kind of diagnostics is required to show the difference.

[51] If we adopt that the prepositional phrase has a D-Case and there is a *by*-phrase in the sentence, it is possible to consider a *by*-phrase in passive sentences as an overt logical subject. If so, we cannot assume that a null argument exists in the passive sentence: the co-occurrence will cause the superfluous thematic interpretation in the LF-representation. Furthermore, the *by*-phrase will be treated as an argument, not as a modifier in the sentence. This treatment requires to adopt that the *by*-phrase is Merged to the verb, so we need to explain why the *by*-phrase follows the verb. I will leave this point here.

[52] In the structure shown in (88), I did not put a trace in the Spec of *v*P. The movement to the Spec of *v*P is not adopted in this structure. This is because I did not adopt the phase theory in this thesis. If we adopt the phrase theory, there should be a trace in the Spec of *v*P. Since this thesis does not adopt the phase theory, the movement will be avoided because the movement will be superfluous. Since PASS is attached to the verb and therefore the Spec of *v*P is not in a domain of the M-Case, the movement does not contribute to the legitimacy of the PF-representation. Therefore, by virtue of economy, the

operation cannot occur. If the head *v* has EPP-feature as Ishino (2012) argues, the operation will be allowed even if we do not adopt the phase theory. I will leave this point here.

[53] The following abbreviations are used here.

ABS = absolutive, ANT = anti-passive, AOR = aorist, DAT = dative

ERG = ergative, PAST = past tense/ past perfect, 3SG = third person singular

[54] There are many studies on Ergative Case system such as Marantz (1981, 1984), Levin (1983), Murasugi (1992, 1995), Bobaljik (1992,1993), and Ura (2000). Ura (2000) seems to succeed to capture the Ergativity in the Minimalist approach.

[55] Since only Merge can be an argument of D-Case, and the Case system in ergative language is not clear, I did not illustrate the whole derivation of the sentence here. Deriving ergative Case system with our Case theory will be left for our future study.

[56] Since I do not analyze the ergative language in this thesis, it is not clear what the passive morpheme does in ergative languages. Therefore, I did not put the morpheme which induces the anti-passive form of the verb.

[57] We need to consider on the relation between a null argument introduced in the previous Chapter and a PRO used with the control verb. Since we adopt that the null argument in English cannot have [Merge v] as its domain, the null argument and the PRO cannot be the same nominal phrase. The precise analysis on the difference cannot be shown in this thesis. The future research on a covert nominal phrase is necessary.

[58] This structure shows that ECM Verb has two *v*s and two Vs, and the verb will be pronounced at the position of v_1. This structure is in the same line with Koizumi (1993).

[59] "A head which assigns θ-role" can be recaptured by our theory by adopting that the Spec of the head can be an argument of D-Case.

[60] In this thesis, I will assume that *be a liar* is a predicate. Since *a liar* is a predicate, *a liar* does not have a value as an argument of the predicate. It is interesting to consider the predicative noun in our new Case theory, but I will leave this point now. Therefore, I regard *be a liar* as a predicate which has *John* as its argument.

[61] In this thesis, I will assume that *be a liar* is a predicate. Since *a liar* is a predicate, *a liar* does not have a value as an argument of the predicate. It is interesting to consider the predicative noun in our new Case theory, but I will leave this point now. Therefore, I regard *be a liar* as a predicate which has *John* as its argument.

[62] The predicate believe seems to require two thematic interpretation: it needs to have a clause as its internal argument. Since I focus only on the nominal phrase in this thesis, I did not refer to it.

[63] In order to show that the whole PF-representation meets the condition in (15), we need to refer to the nominal phrase a liar. According to our theory, the nominal phrase a liar needs to be moved to the Spec of *v*P. Putting aside the problem on the word order, I assume here that there is an overt movement in the sentence, and the PF-representation has the morpho-phonological interpretation

of the nominal phrase *a liar*.

[64] In this thesis, I will assume that *be a liar* is a predicate. Since *a liar* is a predicate, *a liar* does not have a value as an argument of the predicate. It is interesting to consider the predicative noun in our new Case theory, but I will leave this point now. Therefore, I regard *be a liar* as a predicate which has *John* as its argument.

[65] In this thesis, I will assume that *be a liar* is a predicate. Since *a liar* is a predicate, *a liar* does not have a value as an argument of the predicate. It is interesting to consider the predicative noun in our new Case theory, but I will leave this point now. Therefore, I regard *be a liar* as a predicate which has *John* as its argument.

[66] In this thesis, I will assume that *be a liar* is a predicate. Since *a liar* is a predicate, *a liar* does not have a value as an argument of the predicate. It is interesting to consider the predicative noun in our new Case theory, but I will leave this point now. Therefore, I regard *be a liar* as a predicate which has *John* as its argument.

[67] In this thesis, I will adopt the "Enlightened Self Interest" version of the principle of economy.

> "Enlightened Self Interest": Movement of α to β must be for the satisfaction of formal requirements of α or β. (Lasnik 1999: 128)

[68] In this thesis, I assume that a feature which is illegible for PF should be checked before Spell-out, and therefore the checking requires the overt movement. If so, EPP feature is at least illegible for PF. The legibility for LF

is another thing. It is interesting to inquire into this possibility, but it is rather too much for this thesis. I will leave this point for our future research.

[69] According to Massam (1990), Cognate Object is said not to be able to be questioned. The following sentence which is ungrammatical shows the point.

i) *What did he die?

However, this does not necessarily mean that Cognate Object cannot undergo A-bar movement. Since the sentence in (5) is grammatical, the movement itself is not prohibited. The ungrammaticality may be caused by the *WH*-phrase *what*. I will not probe the cause of the ungrammaticality of (i) in this thesis.

[70] Since I do not have a precise analysis of *wh*-movement in this thesis, I did not refer to the property on *wh*-movement. Analyzing *wh*-movement will be left for future research.

[71] Adopting that hyponymous argument have a domain of its D-Case and is an argument of the verb, we need to say that the verbs in the following sentences are different.

(i) John sang in a low voice.

(ii)John sang a song in a low voice.

Since we assumed that the hyponymous argument is Argument, which reduces the adicity of a predicate, the adicity of the verb in (ii) has to be reduced by the argument *a song*. Therefore, in order to maintain the compatibility with the explanation in this chapter, we need to assume that the verb *sing* in (i) is type <e,t> and *sing* in (ii) is type <e,<e,t>>. This may sound strange, but the

following sentence can be an evidence to show the existence of two different lexical items.

(iii)*There was sung.(Åfarli 1989: 101)

Since the verb in (i) cannot be passivized as shown in (iii), the property of the verb in (i) and (ii) seems different. We can explain the contrast by assuming that the verb in (i) does not have M-Case and the verb is type <e,t>, and that the verb in (ii) has M-Case and the verb is type <e,<e,t>>.

[72] This may not be a desirable prediction considering the resultative construction. Consider the followings.

(i) a. The joggers ran their Nikes threadbare.

b. The kids laughed themselves into a frenzy.

c. He sneezed his handkerchief completely soggy.

(Carrier and Randall 1992: 173)

(ii) a. John drove the car drunk.

b. John left the room angry.

c. Mary ate the carrots uncooked. (Rothstein 2005: 2)

Sentences in (i) are the examples of the resultative construction, and sentences in (ii) are the examples of depictives. The resultative construction or depictives with unergative verbs seems to be incompatible with the analysis. This is not necessarily incompatible with our analysis if we adopt the operation Adjoin and the resultative construction and depictives are derived by the operation Adjoin, Since the prediction shown here is a result of the conflation, the operation adjoin does not make the same prediction. I need to account for

the resultative construction for the further argumentation.

[73] In this thesis I assume that the M-Case is necessary only for DPs, and not for PPs. Therefore, the PP *with the skeleton key* does not have M-Case, and the NP *the skeleton key* has M-Case. The M-Case of the NP will be able to define its value by taking the operation [move [Spec, *with*]] as its domain.

References

Åfarli, T. A. 1989. Passive in Norwegian and in English. *Linguistic Inquiry* 20, 101-108

Barss, A. and H. Lasnik. 1986. An Note on Anaphora and Double Objects. *Linguistic Inquiry* 18, 579-595.

Barwise, J. and R. Cooper. 1981. Generalized quantifiers and natural language. *Linguistics and Philosophy* 4: 159-219.

Belletti, A. 1988. The Case of Unaccusatives. *Linguistic Inquiry* 19, 1-34.

Bittener, M. and K. Hale. 1996. The structural determination of case and agreement. *Linguistic Inquiry* 27, 1-68.

Bobaljik, J. D. 1992. Nominally absolutive is not absolutely nominative. In *Proceedings of WCCFL* 11, 44-60. Stanford, Calif.: CSLI.

Bobaljik, J. D. 1993. On ergativity and ergative unergatives. In *MIT working papers in linguistics* 19, 45-88.

Bobaljik, J. D. and D. Jonas. 1996. Subject Positions and the roles of TP. *Linguistic Inquiry* 27, 195-236.

Bobaljik, J. D. and S. Wurmbrand. 2008. Case in GB/Minimalism. In *The Oxford handbook of Case*, ed. Malchukov, Andrej and Andrew Spencer, Oxford: Oxford UP.

Carrier J. and J. Randall. 1992. The Argument Structure and Syntactic structure of resultatives. In *Linguistic Inquiery* 23, 173-234.

Chomsky, N. 1965. *Aspects of the theory of syntax*. Cambridge, Mass: MIT Press.

Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, N. 1986. *Knowledge of Language: Its Nature, Origin, and Use*. New York: Praeger.

Chomsky, N. 1991. Some notes on economy of derivation and representation. In R. Freidin, ed. *Principles and parameters in comparative grammar*. Cambridge, Mass: MIT Press.

Chomsky, N. 1993. A Minimalist Program for linguistic theory. In K. Hale and S. J. Keyser (eds.) *The view from Building 20*. Cambridge, Mass: MIT Press.

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.

Chomsky, N. 2001. Beyond explanatory theory. In *MIT occasional papers in Linguistics* 20, 1-28.

Chomsky, N. and H. Lasnik. 1993. The theory of principles and parameters. In J. Jacobs, A. von Stechow, W. Sternefeld and T. Vennemann (eds.) *Syntax: An international handbook of contemporary research*. Berlin: de Gruyter.

Cooreman, A. 1989. A functional analysis of passives in Chamorro narrative discourse. *Papers in Linguistics* 17, 395-428.

Fillmore, C. J.1968. The case for case. In *Universals in linguistic theory*, ed. Bach, Emmon, and Robert T. Harms, 1-87. New York: Holt, Rinehart, and Winston.

Gallego, Á. J. 2012. A note on cognate objects: cognation as doubling. In *The Grammar of Objects*, ed. Bentzen, Kristine and Antonio Fábregas., 95-112.University of Tromsø.

Green, G. 1974. *Semantics and Syntactic Irregularity*. Indiana: Indiana University Press.

Haegeman, L. and J. Guéron. 1999. *English Grammar*. Malden, MA: Blackwell Publishing.

Hale, K., and S. J. Keyser. 2002. *Prolegomenon to a theory of argument structure*. Cambridge, Mass: MIT Press.

Heim, I. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Ph. D Dissertation, University of Massachusetts, Amherst.

Heim, I. 1987. Where does the Difiniteness Restriction Apply?: Evidence from the Definiteness of Variables. In E. J. Reuland and A. G B. ter Meulen (eds.) *The Representation of (In)definiteness*, 21-42. Cambridge, Mass: MIT Press.

Heim, I. and A. Kratzer. 1998. *Semantics in Generative Grammar*. MA. Blackwell Publishing.

Higginbotham, J. 1987. Indefiniteness and predication. In E. J. Reuland and A. G. B. ter Meulen (eds.) The Representation of (In) definiteness, 43-70. Cambridge MA: MIT Press.

Hirasaki, E. 2015. Syntactic properties of expletive there and semantic contribution of Case. *Eibungaku-kenkyu* Vol.7, 175-182.

Ishino, N. 2012. EPP on Predicative Phrase and Internal Expletive Hypothesis. *JELS* 29, 59-65.

Jones, M. A. 1988. Cognate objects and the case-filter. *Journal of Linguistics* 24, 89-110.

Kamp, H. 1981. A theory of truth and sematic representation. In J. A. G. Groenendjik, T. M. V. Janssen, and M. B. J. Stokhof (eds.) *Formal Methods in the Study of Language*. Amsterdam: Mathematisch Centrum, University of Amsterdam.

Kayne, R. *The antisymmetry of syntax*. Cambridge, Mass: MIT Press.

Keenan, E. L. 1987. A Semantic Definition of “Indefinite NP”. In E. J. Reuland

and A. G. B. ter Meulen (eds.) *The Representation of (In)definiteness*, 286-317. Cambridge, Mass: MIT Press.

Koizumi, M.1993. Object agreement and the split VP hypothesis. *MIT Working Papers in Linguistics* 18, 99-148.

Larson, R. 1988. On the double object construction. *Linguistic Inquiry* 19, 335-391.

Lasnik, H. 1992. Case and expletives: Notes toward a parametric account. *Linguistic Inquiry* 23, 381-405.

Lasnik, H. 1995. Case and expletives revisited: on Greed and other human failings. *Linguistic Inquiry* 26, 615-633.

Lasnik, H, and M. Saito. 1991. On the subject of infinitives. *CLS* 27, 324-343.

Levin, B. 1983. *On the nature of ergativity*. Ph.D. dissertation, MIT.

Levin, B. 1993. *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago and London: the University of Chicago Press.

Longobardi, G. 1994. Reference and proper names: a theory of N-movement in syntax and logical form. *Linguistic inquiry* 25, 609-665.

Massam, D. 1990. Cognate objects as thematic objects. *Canadian Journal of Linguistics* 35, 161-190.

Marantz, A. 1981. On the nature of grammatical relations. Ph.D. dissertation, MIT.

Marantz, A. 1984. *On the nature of Grammatical Relations*. Cambridge, Mass. MIT Press.

McCloskey, J. 1991. *There*, *It*, and Agreement. *Linguistic Inquiry* 22. 563-567

McNally, L. 1998. Existential sentences without existential quantification. *Linguistics and Philosophy* 21: 353-392.

Milsark, G. 1974. *Existential Sentences in English*. PhD Dissertation, MIT.

Milsark, G. 1977. Toward an explanation of certain peculiarities of the existential construction in English. *Linguistic Analysis* 3: 1-30.

Murasugi, K. 1992. *Crossing and nested paths: NP movement in accusative and ergative languages*. Ph.D. dissertation, MIT.

Murasugi, K. 1995. Lexical case and NP raising. In *Grammatical relations: Theoretical approaches to empirical questions*, ed. C. Burgess et al., 309-320. Stanford, Calif.:CSLI.

Partee, B. H, A. ter Meulen, and R. E. Wall. 1990. *Mathematical Methods in Linguistics*. Dordrecht: Kluwer Academic Publishers.

Postal, P. 1974. *On Raising*. Cambridge, Mass: MIT Press.

Postal, P. 1993. Some defective paradigms. *Linguistic Inquiry* 24, 347-364.

Rothstein, Susan. 2005. 58 Secondary Predication. In *The Blackwell Companion to Syntax.* Blackwell Reference Online

Takano, Y. 1995. Predicate Fronting and Internal Subjects. *Linguistic Inquiry* 26, 327-340.

Ura, H. 1993. On Feature-Checking for *Wh*-Traces. *MIT Working Papers in Linguistics* 18, 243-280.

Ura, H. 1994. Varieties of raising and the feature-based phrase structure theory. *MIT Occasional papers in linguistics*7.

Ura, H. 2000. *Checking theory and grammatical functions in Universal Grammar.* New York: Oxford University Press.

Ura, H. 2001. Case. In *The handbook of contemporary syntactic theory*, ed. Baltin, Mark and Chris Collins, 334-373. Oxford: Blackwell.

Vergnaud, J. -R. 1982. *Dépendances et niveaux de representation en syntaxe*.

Thése de doctorat d'état, univeřsité de Paris VII.

Watanabe, A. 1996. *Case absorption and WH-agreement*. Dordrecht: Kluwer Academic Publishers.

Woolford, E. 2006. Lexical Case, Inherent Case, and Argument Structure. *Linguistic Inquiry* 37, 111-130.

Zucchi, A. The ingredients of Definiteness and the Definiteness Effect. *Natural Language Semantics* 3, 33-78.